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Complete Organization. --See Pages 20-21.

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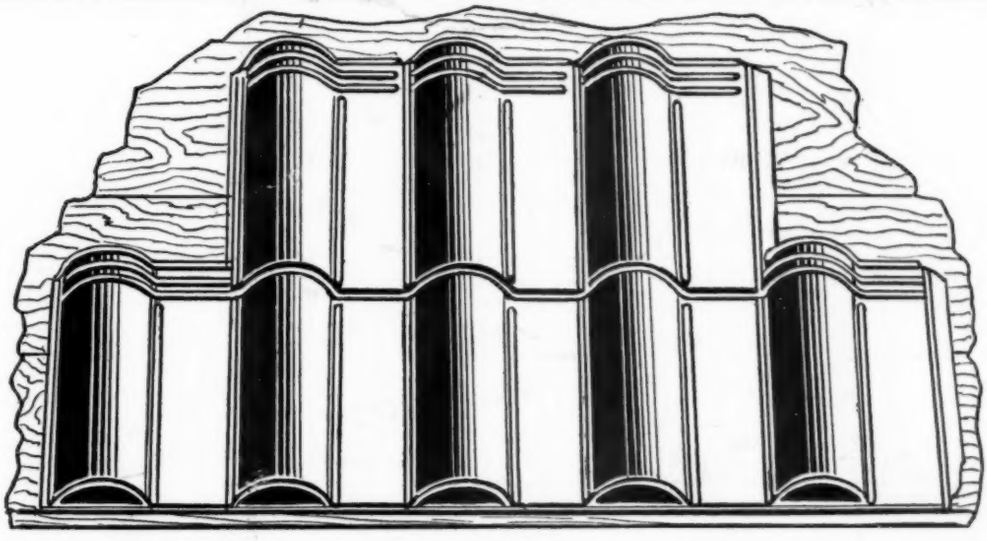

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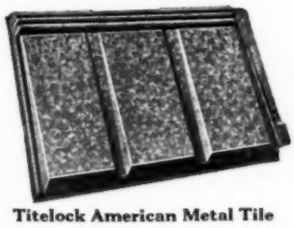

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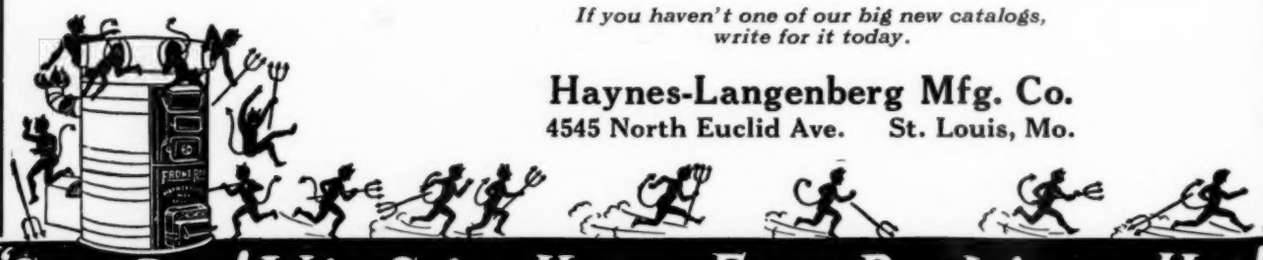

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AMERICAN ARTISAN and Hardware Record

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ANOTHER VIEW OF ASSOCIATION WORK.

"In most discusssions of trade association work there is a tendency to overemphasize the purely material benefits that accrue to the membership.

"From the broader viewpoint of industrial stability, and efficient service to the consuming public, the most important functions of the trade association are the establishment of more cordial relations between individual companies, and the elevation of ethical standards in all business transactions.

"In general, the standards established by trade associations indicate a strong tendency toward discouraging misrepresentation of products, rectifying improper and misleading classifications, and promoting public confidence in educating the consumer in proper buying and economical utilization."

The foregoing paragraphs are quoted from an article in a recent issue of the "Engineering and Mining Journal Press."

There is, however, this point to consider, that it is always easier to convince a man that he ought to belong to his trade organization when its benefits are shown.

He is—unless an altogether unusual type of man—more than likely to ask the solicitor who requests him to "join" or, at any rate, to ask himself:

"What good is it going to do me to become a member of that association; what benefit will I derive from being a member?"

And you can hardly blame him for asking that question, because he also must decide upon this other question—

"What is it going to cost?"

And unless you can show him that the benefits accruing to him will at least equalize the cost, he is not very likely to think much of your proposition as to membership.

Once, however, he becomes a member and takes an active part in his organization, he soon realizes, that while the beneficial results to himself are very real and often far beyond his fondest hopes, these benefits are after all the result of the more cordial relations established with his fellow tradesmen, and also that because of these better relations, higher ethical standards are established which tend to discourage misrepresentation and therefore to promote the confidence of the public and thereby also to educate the consumer in proper buying or economical utilization.

To take a concrete example:

Wherever there is an active association of sheet metal contractors, there is no malicious or ignorant price cutting, because each contractor knows what it really costs to do a certain kind of a job, and as there never can be much difference in the overhead of two concerns operating in the same locality, it becomes a matter of salesmanship, with the result that the contractor who gets the job makes a real profit, the man who ordered the work receives a better job, because no skimping or skinning is necessary.

First, the contractor is benefited. Secondly, the consumer receives better service. Thirdly, the public shares in the benefit, because of the general improvement in the building work.

Random Notes and Sketches.

By Sidney Arnold

Henry J. Karges was in New York recently, and as Southern Indiana, and especially Evansville, is exceedingly dry, he took advantage of the situation to make a trip across the line into Canada, where he bought two bottles of ale.

On the train returning from Canada he sat in the smoker, shifting his feet and gazing in mental anguish at the bag between them. Finally he approached an older man who had all the earmarks of an experienced traveler.

"Sir," he said, "this is my first trip over the border since the coming of prohibition. Now, my wife is exceedingly fond of ale and I have put two small bottles in this bag, but I am worrying about getting them through the customs. You have made the trip many times and know all the ropes. Would you mind exchanging grips with me until we get through?"

The other agreed willingly and the customs officers allowed them to pass without a word. Henry breathed a sigh of relief.

"Awfully good of you," he said. "But what the dickens have you got in your suitcase? The thing weighs a ton."

"Only a dozen quarts of Scotch," grinned the other.

* * *

"Always see that you do it in keeping with your position and standing in society," said Ralph Blanchard, of Hart & Cooley Company, while attending the organization meeting of the Minnesota Sheet Metal Contractors' Association, "but don't be too obvious like Mrs. Nurich.

The Nuriches had made a fortune out of the war and, anxious to do everything that the rest of the millionaires did, bought a country place on Long Island and set up an aristocratic chicken farm. A woman friend who was visiting them one day exclaimed in delight:

"Goodness! What beautiful chickens!"

"Yes," agreed the hostess, haughtily, "all prize birds."

"Wonderful! And do they lay every day?"

"They could, of course, but," grandiloquently, "in our position it isn't necessary for them to do so."

* * *

Whenever George Carr, of the Carr Supply Company, sells so much that his shipping department has to work nights to catch up, he simply quits work and tells his sales-

George Carr Did Some Rocking and Lost the Fish, but He Did Not Get Wet.

men to go fishing a week or so, and occasionally he goes along with some of them.

It so happened that on one of these occasions Ed Greisz, City Salesman with the Carr Supply Company, had the "pleasure" of doing the rowing, while George was trying out a new casting fly.

George thought that he saw something flicker just ahead of the boat and in trying to reach it with his fly he lost his balance and put one of his number elevens into Ed's midship, with the result that both oars went overboard, Ed lost his hat and almost followed it into the cold waters of the Wisconsin lake where they were sporting around.

The fish got away, but George claimed that it was the biggest one he ever saw.

* * *

C. C. Peffly, of the Clark-Jewel range organization, lives in Elmhurst, one of the pleasant suburbs west of Chicago, and he was quite in earnest when he told me of the following incident:

There had been so many robberies that the police were being seriously annoyed. Try as they might, they failed to arrest the persons responsible. Late one night an excited voice came over the telephone:

"Burglars have broken into Number 64 Lyons Street! Send help quick!"

The sergeant looked at the solitary policeman in the station.

"Mike," he said simply, "the house at 64 Lyons Street is being robbed. Go up and surround it."

* * *

At the meeting of the Metal Branch in Cleveland I was fortunate enough to be seated between H. N. Taylor, of the N. & G. Taylor Company—Target & Arrow Roofing Tin, you know—and Mrs. A. W. Howe during the banquet Friday evening, and I surely had a good time, for Mrs. Howe is just as good a "good fellow" as her husband, and "H. N." had evidently stored up a lot of stories for the occasion, so my chief job was listening, besides, of course, partaking of the good things that the waiter passed around.

Here is one of the best from Brother Taylor's repertoire:

A man was driving along a country road, with his wife riding in the rear seat of the machine. As they turned a corner they came suddenly upon a farmer with a big load of hay. The road was too narrow for them to pass each other, and the automobilist called to the farmer that he would back up to some place where they might pass by.

But the lady in the rear seat objected strenuously, so the farmer yelled: "It is all right, partner, I'll back up. I've got one of those rear seat drivers at home myself."

Voorhees Shows How Standard Code Rules May Be Easily and Accurately Applied.

Average Installer Is Not an Expert at Figures, Says Speaker, So Why Not Reduce Figuring to Minimum?

AT THE Annual Convention of the National Warm Air Heating and Ventilating Association, George A. Voorhees, Heating Engineer of the Century Heating Service Company, Indianapolis, spoke on the Standard Code for Installation of Warm Air Furnaces in Residences and gave some of the reasons why certain classes of installers fail to follow the rules laid down by the Code in figuring pipe sizes, etc., and also showed how this disinclination to apply the rules might be overcome.

Mr. Voorhees' paper follows in part:

In thinking of the practical application of standard code, one naturally sees it in its relation to the design of a heating plant. Viewed in this light, we find ourselves facing the disappointing fact that most retail dealers ignore it altogether in their everyday work.

Many of us who have been working constantly and consistently to promote better furnace installations and who had expected much from the code, have been puzzled to explain why more furnace men fail to use it.

Very few furnace men with whom I have talked have criticized the code. Most of them agreed that it is a good thing—a force that will help to lift warm air heating up to its proper level.

But these very men who approve it are going ahead with their former methods of guessing at pipe sizes or they are still following some one of the many crude rules that are often dangerous because of their inaccuracy.

It seems to me that one reason for the failure of the code to achieve the results that have been expected of it is that it has been presented as an engineering proposition. That is to say, we have talked too much about its relation to the *design* of a warm air heating system.

That's perfectly natural because we want better heating plants and this code was drawn up for the express purpose of insuring better installations.

But let's stop a moment and ask ourselves *why* we want better installations. Isn't it because better heating plants installed now will bring business more easily in the future?

Isn't it fundamentally a *sales* problem rather than an engineering problem that we are trying to solve?

If this code is offered to the heating contractor, not merely as a means of improving his installations, but also as a means of building his business, he will be doubly interested. Those heating contractors and retail merchants who do use the code and who explain to their customers the advantages of having a heating system planned and installed according to the code requirements, have found that it is a surprising help in closing sales. The property owner who is buying a warm air furnace is quick to see and appreciate the advantage of having a furnace so installed. He sees that his plant is designed according to the best judgment, not of *one* furnace man, but of hundreds of the best heating men in the entire country. He can be shown that the work carried on at the University of Illinois has established certain *facts* about heating which are highly important to him and that these facts are embodied in the requirements of the code.

These points have not been sufficiently emphasized in presenting the code to the practical furnace man whom you want to interest. But there are still other reasons why it is not more widely used.

The average retail dealer talks with a number of furnace salesmen during the year. He looks upon them as men who know the heating business. Suppose he is slightly interested in the code; he has read

Height of Opening		Width of Opening								
Ft	Ins.	1 Ft 12 Ins	1½ 18	2 24	2½ 30	3 36	3½ 42	4 48	4½ 54	5 60
1	12	0.5	0.7	0.9	1.2	1.4	1.6	1.9	2.1	2.3
1½	18	0.7	1.1	1.4	1.8	2.1	2.5	2.8	3.2	3.5
2	24	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.7
2½	30	1.2	1.8	2.3	2.9	3.5	4.1	4.7	5.3	5.8
3	36	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0
3½	42	1.6	2.5	3.3	5.1	4.9	5.7	6.5	7.4	8.2
4	48	1.9	2.8	3.7	4.7	5.6	6.5	7.5	8.4	9.3
4½	54	2.1	3.2	4.2	5.3	6.3	7.4	8.4	9.5	10.5
5	60	2.3	3.5	4.7	5.8	7.0	8.2	9.3	10.5	11.7
5½	66	2.6	3.9	5.1	6.4	7.7	9.0	10.3	11.6	12.9
6	72	2.8	4.2	5.6	7.0	8.4	9.8	11.2	12.6	14.0
6½	78	3.0	4.6	6.1	7.6	9.1	10.6	12.2	13.7	15.2
7	84	3.3	4.9	6.5	8.2	9.8	11.4	13.1	14.7	16.4
7½	90	3.5	5.3	7.0	8.8	10.5	12.3	14.0	15.8	17.5
8	96	3.7	5.6	7.5	9.3	11.2	13.1	15.0	15.8	18.7

Table 1.—Partial warm air pipe areas required to offset transmission losses through window and outside door openings. In using table, take full measurement of opening. This table will give correct results only when used in connection with Table 2, which is based on heat losses through gross area of exposed wall surface.

about it in the trade papers and one or two manufacturers have mailed him a copy. He mentions it to a salesman who has called. What sort of a response does he get?

So far as I have been able to find out, he doesn't hear anything that encourages him to adopt the code and use it. Most salesmen seem to have some sort of rule that they follow for determining heat pipe sizes, and having used that particular method for some time, they

Running feet of Exposed Wall	Ceiling Height 8	9	10	11	12
6	10	11	12	13	14
7	11	13	14	15	17
8	13	14	16	18	19
9	14	16	18	20	22
10	16	18	20	22	24
11	18	20	22	24	26
12	19	22	24	26	29
13	21	23	26	29	31
14	22	25	28	31	34
15	24	27	30	33	36
16	26	29	32	35	38
17	27	31	34	37	41
18	29	32	36	40	43
19	30	34	38	42	46
20	32	36	40	44	48
21	34	38	42	46	50
22	35	40	44	48	52
23	37	41	46	51	55
24	38	43	48	53	58
25	40	45	50	55	60
26	42	47	52	57	62
27	43	49	54	59	65
28	45	50	56	62	67
29	46	52	58	64	70
30	48	54	60	66	72
31	50	56	62	68	74
32	51	58	64	70	77
33	53	59	66	73	79
34	54	61	68	75	82
35	56	63	70	77	84
36	58	65	72	79	86
37	60	67	74	81	89
38	61	68	76	84	91
39	62	70	78	86	94
40	64	72	80	88	96
41	66	74	82	90	98
42	67	76	84	92	101
43	69	77	86	95	103
44	70	79	88	97	106
45	72	81	90	99	108
46	74	83	92	101	110
47	75	85	94	103	113
48	77	86	96	106	115
49	78	88	98	108	118
50	80	90	100	110	120
51	82	92	102	112	122
52	83	94	104	114	125
53	85	95	106	117	127
54	86	97	108	119	130
55	88	99	110	121	132
56	90	101	112	123	134
57	91	103	114	125	137
58	93	104	116	128	139
59	94	106	118	130	142
60	96	108	120	132	144
61	98	110	122	134	146
62	99	112	124	136	149
63	101	113	126	139	151
64	102	115	128	141	154
65	104	117	130	143	156
66	106	119	132	145	158
67	107	121	134	147	161
68	109	122	136	150	163

Table 2.—Partial heat pipe areas required to offset transmission losses of heat through gross area of exposed wall.

Size of Room	Ceiling Height 8	9	10	11	12
6x6	3	3	4	4	4
6x7	3	4	4	5	5
6x8	4	4	5	5	6
6x9	4	5	5	6	6
6x10	5	5	6	7	7
6x11	5	6	7	7	8
6x12	6	6	7	8	9
7x7	4	4	5	5	6
7x8	4	5	6	6	7
7x9	5	6	6	7	8
7x10	6	6	7	8	8
7x11	6	7	8	8	9
7x12	7	8	8	9	10
7x13	7	8	9	10	11
7x14	8	9	10	11	12
8x8	5	6	6	7	8
8x9	6	6	7	8	9
8x10	6	7	8	9	10
8x11	7	8	9	10	11
8x12	8	9	10	11	12
8x13	8	9	10	11	12
8x14	9	10	11	12	13
8x16	10	11	12	13	14
8x16	10	12	13	14	15
9x9	6	7	8	9	10
9x10	7	8	9	10	11
9x11	8	9	10	11	12
9x12	9	10	11	12	13
9x13	9	11	12	13	14
9x14	10	11	13	14	15
9x15	11	12	14	15	16
9x16	12	13	14	16	17
9x17	12	14	15	17	18
9x18	13	15	16	18	19
10x10	8	9	10	11	12
10x11	9	10	11	12	13
10x12	10	11	12	13	14
10x13	10	12	13	14	16
10x14	11	13	14	15	17
10x15	12	14	15	17	18
10x16	13	14	16	18	19
10x17	14	15	17	19	20
10x18	14	16	18	20	22
10x18	15	17	19	21	23
10x20	16	18	20	22	24
11x11	10	11	12	13	15
11x12	11	12	13	15	16
11x13	11	13	14	16	17
11x14	12	14	15	17	18
11x15	13	15	17	18	20
11x16	14	16	18	19	21
11x17	15	17	19	21	22
11x18	16	18	20	22	24
11x19	17	19	21	23	25
11x20	18	20	22	24	26
11x21	18	21	23	25	28
11x22	19	22	24	27	29
12x12	12	13	14	16	17
12x13	12	14	16	17	19
12x14	13	15	17	18	20
12x15	14	16	18	20	22
12x16	15	17	19	21	23
12x17	16	18	20	22	24
12x18	17	19	22	24	26
12x19	18	21	23	25	27
12x20	19	22	24	26	29
12x21	20	23	25	28	30
12x22	21	24	26	29	32
12x23	22	25	28	30	33
12x24	23	26	29	32	35
13x13	14	15	17	19	20
13x14	15	16	18	20	22
13x15	16	18	20	21	23
13x16	17	19	21	23	25
13x17	18	20	22	24	27
13x18	19	21	23	26	28
13x19	20	22	25	27	30
13x20	21	23	26	29	31
13x21	22	25	27	30	33
13x22	23	26	29	31	34
13x23	24	27	30	33	36
13x24	25	28	31	34	37
13x25	26	29	33	36	39
13x26	27	30	34	37	41
14x14	16	18	20	22	24
14x15	17	19	21	23	25
14x16	18	20	22	25	27
14x17	19	21	24	26	29
14x18	20	23	25	28	30
14x19	21	24	27	29	32
14x20	22	25	28	31	34
14x21	24	26	29	32	35
14x22	25	28	31	34	37
14x23	26	29	32	35	39
14x24	27	30	34	37	40
14x25	28	32	35	39	42
14x26	29	32	36	40	44
14x27	30	34	38	42	45
14x28	31	33	39	43	47
15x15	18	20	23	25	27
15x16	19	22	24	26	29
15x17	20	23	26	28	31
15x18	22	24	27	30	32
15x19	23	26	29	31	34
15x20	24	27	30	33	36
15x21	25	28	32	35	38
15x22	26	30	33	36	40
15x23	28	31	35	38	41
15x24	29	32	36	40	43
15x25	30	34	38	41	45
15x26	31	35	39	43	47
15x27	32	36	41	45	49
15x28	34	38	42	46	50
15x29	35	39	44	48	52
15x30	36	41	45	50	54
16x16	20	23	26	28	31
16x17	22	24	27	30	33
16x18	23	26	29	32	35
16x19	24	27	30	33	36
16x20	26	29	32	35	38
16x21	27	30	34	37	40
16x22	28	32	35	39	42
16x23	29	33	37	40	44
16x24	31	35	38	42	46
16x25	32	36	40	44	48
16x26	33	37	42	46	50
16x27	35	39	43	48	52
16x28	36	40	45	49	54
16x29	37	42	46	51	56
16x30	38	43	48	53	58
16x31	40	45	50	55	60

Table 3.—Partial warm air pipe areas required to offset heat loss due to leakage of air amounting to one room volume per hour.

man say that the code was no good; most of them, when asked about it, will say it is all right, but that seems to be about the limit of their endorsement. And I have found sev- naturally like it better than code rules that involve quite a bit of figuring. I've never heard any sales- eral cases where a furnace salesman didn't know just what the code did provide and didn't even carry a copy with him.

That sort of an attitude on the part of representatives of members of this association certainly doesn't encourage the dealer to adopt the code.

Another thing that tends to hinder the more general use of the code is the amount of work involved. When a man gets hold of it for the first time and starts to use it, here's what he has to do:

1. He calculates the number of square feet of glass surface in each window and outside door. If this room in question has three windows and one door, that means four computations. Unless he takes his measurements to the nearest even foot, which is rather inaccurate, I notice that more than half of those I have watched take the measurements in inches, multiply the width by height of the opening in inches, then divide by 144 to find out how many square feet there are. This is a lot of work.

2. He adds together the areas of the several windows and outside doors to get the total glass surface.

3. He multiplies the number of running feet of exposed wall by the ceiling height to get the *gross* wall surface.

4. He subtracts the glass surface from gross wall to get the net area of exposed wall.

5. As the first step in finding the content of the room, he multiplies the length by the width.

6. He multiplies this product by the ceiling height to complete the process of finding the cubic content.

7. He divides the glass area by 12.

8. He divides the net exposed wall surface by 40.

9. He divides the cubic content by 800.

10. He adds these quotients.

11. He multiplies the sum by 8.

Eleven steps at least just to find the area of the basement pipe to supply a first floor room. Think of it; he thinks of it. He pictures doing all this work for every room in the house and he files his copy of the code away in an obscure pigeon hole where it stays.

I'm not criticizing the code; I think it's one of the greatest steps that has ever been made in the direction of greater business and easier sales, but I don't want to shut my eyes and refuse to see the stumbling blocks that bar the way. Especially when it is not hard to remove them.

But to get back to the question:

Every separate step in the work offers a chance for a mistake, and although ordinary care will bring fairly accurate results, it is possible to eliminate many of these chances which might affect the pipe sizes and at the same time reduce the amount of work to a minimum.

According to the code, a part of the cross sectional area of the heat pipe to a given room carries the quantity of heat needed to offset the transmission loss through glass surface; another part of the pipe area carries the heat to offset the loss through exposed wall; another part of the pipe area offsets heat loss through cold ceiling, and still another part supplies the heat lost by air leakage.

That part of the pipe area needed to offset the transmission of heat through windows and doors is found according to the code by dividing the total number of square feet of glass surface by 12 and multiplying by 8. This is equivalent to saying that for each square foot of glass surface 0.67 sq. in. of heat pipe area is needed.

The code rule tells us to divide the number of square feet of net wall surface by 40 and multiply by 8 which is equivalent to saying that for each square foot of net exposed wall surface, 0.20 square inches of heat pipe area is needed.

Let us suppose for a moment, that we have a room with neither windows or outside doors. In that case, a table can be constructed to show without the necessity of figuring, the number of square inches of heat pipe area needed to offset transmission loss through the exposed wall as expressed in terms of ceiling height and running feet of exposed wall.

In other words, having measured the number of running feet of exposed wall and the ceiling height, the partial heat pipe area needed to offset the heat loss through the wall can be read directly from the table. The accompanying Table 2 is constructed on this basis.

Going back now to a consideration of glass surface, we see that in a like manner we could construct a table that would show the partial heat pipe area required to offset the heat loss through a window or door of any given size. It would only be necessary to allow for every square foot of such glass surface, 0.67 square inches of heat pipe area.

This is 0.47 square inches of heat pipe area MORE, per square foot than the wall surface requires. Hence, if we change the coefficient for glass from 0.67 to 0.47, we may use gross exposed wall surface instead of net exposed wall, thus eliminating one step in the calculations; viz., subtracting glass from gross wall to obtain the net wall area.

Table 1 has been prepared on this basis.

Size of Room	Partial Pipe Area	Size of Room	Partial Pipe Area	Size of Room	Partial Pipe Area	Size of Room	Partial Pipe Area
6 x 6	4	9 x 17	15	12 x 19	23	14 x 27	38
6 x 7	4	9 x 18	16	12 x 20	24	14 x 28	39
6 x 8	5			12 x 21	25		
6 x 9	5	10 x 10	10	12 x 22	26	15 x 15	23
6 x 10	6	10 x 11	11	12 x 23	28	15 x 16	24
6 x 11	7	10 x 12	12	12 x 24	29	15 x 17	26
6 x 12	7	10 x 13	13			15 x 18	27
		10 x 14	14	13 x 13	17	15 x 19	29
7 x 7	5	10 x 15	15	13 x 14	18	15 x 20	30
7 x 8	6	10 x 16	16	13 x 15	20	15 x 21	32
7 x 9	6	10 x 17	17	13 x 16	21	15 x 22	33
7 x 10	7	10 x 18	18	13 x 17	22	15 x 23	35
7 x 11	8	10 x 19	19	13 x 18	23	15 x 24	36
7 x 12	8	10 x 20	20	13 x 19	25	15 x 25	38
7 x 13	9			13 x 20	26	15 x 26	39
7 x 14	10	11 x 11	12	13 x 21	27	15 x 27	41
		11 x 12	13	13 x 22	29	15 x 28	42
8 x 8	6	11 x 13	14	13 x 23	30	15 x 29	44
8 x 9	7	11 x 14	15	13 x 24	31	15 x 30	45
8 x 10	8	11 x 15	17	13 x 25	33		
8 x 11	9	11 x 16	18	13 x 26	34	16 x 16	26
8 x 12	10	11 x 17	19			16 x 17	27
8 x 13	10	11 x 18	20	14 x 14	20	16 x 18	29
8 x 14	11	11 x 19	21	14 x 15	21	16 x 19	30
8 x 15	12	11 x 20	22	14 x 16	22	16 x 20	32
8 x 16	13	11 x 21	23	14 x 17	24	16 x 21	34
		11 x 22	24	14 x 18	25	16 x 22	35
9 x 9	8			14 x 19	27	16 x 23	37
9 x 10	9	12 x 12	14	14 x 20	28	16 x 24	38
9 x 11	10	12 x 13	16	14 x 21	29	16 x 25	40
9 x 12	11	12 x 14	17	14 x 22	31	16 x 26	42
9 x 13	12	12 x 15	18	14 x 23	32	16 x 27	43
9 x 14	13	12 x 16	19	14 x 24	34	16 x 28	45
9 x 15	14	12 x 17	20	14 x 25	35	16 x 29	46
9 x 16	14	12 x 18	22	14 x 26	36	16 x 30	48

Table 4.—Partial heat pipe area required to offset transmission loss of heat through cold ceiling. (Cold ceilings are those next to unfloored attics.) For ceilings of other dimensions than those given above, the partial pipe area in square inches is 1/10 of the ceiling area in square feet.

FIRST FLOOR Basement Pipe Area		SECOND FLOOR		THIRD FLOOR	
Determined by STANDARD CODE RULE or from Tables.	Equivalent Area for Register Temperature of 175 deg.	Basement Pipe	Riser	Basement Pipe	Riser
50	56	38	23	31	19
55	62	41	25	34	21
60	68	45	27	38	23
65	73	49	29	41	24
70	79	53	32	44	26
75	84	56	34	46	28
80	90	60	36	50	30
85	96	64	38	53	32
90	101	68	41	56	34
95	107	71	43	59	36
100	113	75	45	63	38
105	118	79	47	66	39
110	124	83	50	69	41
115	129	86	52	72	43
120	135	90	54	75	45
125	141	94	56	78	47
130	146	98	59	81	49
135	152	101	61	84	51
140	158	105	63	88	53
145	163	109	65	91	54
150	169	113	68	94	56
155	174	116	70	97	58
160	180	120	72	100	60
165	185	124	74	103	62
170	191	128	77	106	64
175	197	131	79	109	66
180	203	135	81	113	68
185	208	139	83	116	69
190	214	143	86	119	71
195	220	146	88	122	73
200	225	150	90	125	75
205	231	154	92	128	77

Table 5.—Equivalent pipe areas.

Table 3 which gives the partial heat pipe area required to replace the heat lost by air leakage, is based on the code requirement of one square inch of pipe capacity for each 100 cubic foot of space in the room.

Table 4 in a like manner, provides for transmission loss through cold ceiling.

These tables apply only to first floor rooms and provide a register temperature of 190 degrees Fahr. For a register temperature of 175 degrees, Table 5 gives the equivalent pipe area. This table also takes care of leaders and risers to second and third floor rooms.

Eichberg Believes in Having Things Down in Black and White For Furnace Work.

His Contract Contains Provisions That Are Well Worth Incorporating in Yours if They Are Not Already There.

W. L. EICHBERG, Memphis, Tennessee, in connection with his furnace work, uses two forms of contracts. One of these forms he uses on new work only and the other is a form used on replacement jobs only.

The former is reproduced on the opposite page. There are several important features about this contract form, notable among which is the provision for part payment when the work is partially completed. Attention is also called to the provision for the installer retaining title to the heating installation until payment is made for it. As it is important to have a definite understanding with a customer covering just the work to be done and have an order in writing, this contract form is reproduced herewith as a suggestion to other installers.

The contract form used on replacements jobs is similar so far as the foregoing provisions are concerned, the main difference being in the fact that space is provided for a description of the work to be done which, as it will vary with different jobs, must be described particularly for that special installation.

These contract blanks are printed on regular 8½ x 11-inch stock. W. L. Eichberg's name appears at the top with his address and the title, "Heating and Ventilating Engineer."

Installers are urged to read this contract very carefully.

Some of the provisions may not appear of importance; others may not be considered well founded, such as that pertaining to their covering of the tin pipes with asbestos paper.

Another clause to which some installers might object is that under "Privileges"—"in case of any local interference with the working of same, I am to have the right of adding to the apparatus, or replacing with a larger one, or locating differently *at my expense* to secure the best results."

It might be argued that the house owner might force the installer to alter his plans "by local interference" and to make it necessary to do more than originally agreed upon, at the installer's expense.

The last clause in the "Acceptance" might also be considered objectionable, in that it appears to give the owner an unnecessarily long period of time for ordering the work done.

It might be better to set some specific date, not so far in advance.

The time limit is necessary, as without it the contract has nothing to bind the house owner—obviously, the installer cannot demand payment until he has done the work.

We shall be glad to hear from installers who have had experience with this or other forms of contract.

George H. Barbour Will Celebrate 73rd Birthday, June 26th.

Every little while the old saying, that a prophet's honored, save in his own country, is proven untrue.

A full page in a recent issue of the *Sunday Times* of Detroit is given to George Harrison Barbour, known to readers of AMERICAN ARTISAN as the general manager of the Michigan Stove Company, manufacturers of the famous Garland stoves, ranges and warm air furnaces.

Mr. Barbour was born in Collinsville, Connecticut, June 26, 1846, and received his early business training in his father's general store in that town. At the age of 19 he took over the business from which his father retired, and in 1872 he bought an interest in the Michigan Stove Company and moved to Detroit.

He is now its vice-president and general manager and also president of the Ireland and Matthews Manufacturing Company, which makes stove trimmings and kindred lines.

Mr. Barbour built and organized the Michigan Copper & Brass Company. He is vice-president of the Dime Saving Bank, a director of the People's State Bank, and of the Michigan Fire & Marine Insurance Company. He was the first president of the Michigan Manufacturers' Association and of the Chamber of Commerce, and has been president of the Detroit city council and president of the National Association of Stove Manufacturers from 1888 to 1890. He was a commissioner to the Columbian Exposition in 1893 and president of the state commission to the Pan-American Exposition in 1897.

On June 26th, Mr. Barbour will celebrate his seventy-third birthday, and it would be a fine thing if his many friends in the stove and furnace field would remember him with a personal greeting.

Wonder Furnace Company, Niantic, Illinois, Is Incorporated for $200,000.

The Wonder Furnace Company, Niantic, Illinois, has been incorporated to manufacture furnaces at Niantic. The capital stock is $200,000, of which the following has been subscribed and paid in: V. C. Jones, Niantic, $50,000; W. C. Jones, Niantic, $50,000, and F. E. Harrold, Decatur, $50,000. The Company takes over the assets of the Decatur Furnace and Foundry Company at Niantic.

His Flute Was Better Than a Gun.

When John Jacob Astor, the founder of the Astor fortune, used to go into the forests to trade with the Indians for furs he did not carry a gun. He took a flute with him and played on it, which pleased the Indians and won him their confidence and friendship.

When you are trying to make friends, never carry a gun with you. Always take a flute—the flute of courtesy, kindness and good will.

Proposition and Contract

.....192....

To.....

W. L. EICHBERG, Memphis, Tenn., herewith proposes to furnish and erect a heating apparatus in .....

Furnace

.....as follows:

.....

.....

.....Warm Air Furnace and smoke-pipe to flue (you to furnish proper smoke flue.) Furnace to have Hand Regulator and Vapor Pan.

Warm Air Pipes and Registers.

Necessary Heating Pipes to first floor with.....B. J. Register Faces.

Necessary Heating Pipes to second floor with.....B. J. Register Faces.

Necessary Heating Pipes to third floor with.....B. J. Register Faces.

All tin pipes to be wrapped with asbestos paper. Work to be installed as per our plans.

For.....($.....) Dollars

Price

Terms: $.....to be paid when wall pipes are erected, and balance on completion of our work .....

.....

Specifications

The work to be done in a first-class and workmanlike manner, to be considered complete and contract price due and payable, as above specified, when furnace, smoke and heating pipes are in position and registers furnished at or in place in the building. You to receive material on arrival, pay freight and drayage, deducting same from contract price, sending me paid bills promptly for your credit.

You to furnish labor and materials for brick, masonry, and carpenter work including cold-air duct; also excavation if any is needed. Any alterations or additions desired by you when involving extra expense to me will be charged for additionally.

In no event shall the party of the first part be liable in excess of the amount of this contract.

It is hereby expressly understood and agreed, that the title to the above described goods shall be and remain in the name of W. L. EICHBERG until all of the above mentioned sums of money are paid, and it is further understood and agreed that in case of default in payment of any of the installments as above provided, I am empowered under this agreement to enter upon the above mentioned premises and take possession of and remove said goods at any time, and that I shall have the right under this agreement to retain any sum or sums of money that may have been paid by YOU as liquidated damages for the use of said goods; and further, it is expressly agreed that said goods shall be and remain personal property in whatsoever manner it may be annexed to realty.

Use of Apparatus

If the apparatus is used for other mechanics or any one else, before it is completed and accepted by you, I will not be held responsible for damages, if there should be any.

All agreements are contingent upon strikes, accidents or causes beyond my control.

Guarantee

When you have complied with the conditions of this contract and paid for same in full, I guarantee that with proper attention the furnace will heat all rooms to which a complete new run of pipes has been made by me to an average temperature of 65 to 70 degrees Fahrenheit in **the coldest winter weather** where installed, provided all outside doors and windows are properly fitted and kept closed and building properly enclosed.

You shall be responsible for any damage to the apparatus caused by fire during the progress of the work herein specified. I shall not be responsible for any damage or delay caused by fire, strikes, accidents, or other causes beyond my control.

Privileges

I reserve the privilege to have full control of locating all the apparatus and, in case of any local interference with the working of same, I am to have the right of adding to the apparatus, or replacing with a larger one, or locating differently **at my expense** to secure the best results. All agreements binding on either party are expressed in this contract, and no verbal agreements are binding.

Respectfully submitted,

W. L. EICHBERG,

By.....

ACCEPTANCE

The undersigned hereby accepts the foregoing proposition and agrees to pay for the apparatus as above specified and will order the work done within one year.

Dated.....192.... .....(Seal)

.....(Seal)

.....(Seal)

Harrison Wants Turton to Come Across With Real Solution of Pipeless Problem.

Michigan Furnace Installer Says That With Four Distinct Solutions Offered Turton Should Announce His Choice.

THERE is a time for everything, and the time is ripe for a critical analysis of the six solutions offered by installers to the pipeless furnace problem presented by George W. Turton, Niles, Michigan, in our 1922 Warm Air Furnace Special, on pages 91 and 92, says E. S. Harrison, 814 John Street, Sault Ste. Marie, Michigan, in the following letter:

To AMERICAN ARTISAN:

My interest in AMERICAN ARTISAN was first aroused by Mr. Turton's article in the issue of December 30, and I have looked forward to each issue since.

It seems to me it is time we were getting somewhere with this discussion if it is to do us any good this season.

Mr. Turton's letter, published in the issue of April 14, leads me to believe that he has not read all the replies, as he speaks of but three and I know of at least five. Briefly, they are as follows:

M. B. McGowan, published January 20.

Charles Wilson, published February 24.

E. S. Harrison, published March 10.

G. A. Byor, published March 17.

R. W. Menk, published March 24.

F. G. Sedgwick, published May 26.

Here are six solutions, four of them widely different, and two which pair with others. It seems to me this gives sufficient material for a critical analysis and I, for one, would like to hear what Mr. Turton thinks of the rest of us, and what he would do himself.

Mr. McGowan and Mr. Sedgwick seem to have offered the method which is most typically pipeless, and with a promise of successful operation.

Mr. Sedgwick puts Mr. Menk and myself out of the race by stating positively that the stairway cannot be used for a heat conveyor. As he says he has tried it, I will not attempt to argue.

Mr. Byor offers an elaborate solution which ought to heat the house, but which would be so expensive as to be almost out of the pipeless class. Looks to me like he has come as near to making a one room house as a pipeless furnace.

Mr. Wilson would be sure of heating the bath room with his special pipe, but I am afraid the rest of the second floor would have to get some of its 65 degrees from the bath room.

My respects to all those who tried.

E. S. HARRISON.

Sault Ste. Marie, Michigan, June 8, 1923.

Furnace Company Prepares Sign Boards for Furnace Installers.

Practically every business man who has had any experience with billboard advertising agrees that this form of advertising does pay. The attention-compelling propensities of the strategically-located sign-board are simply irresistible.

The accompanying illustration is that of a sign-board prepared by the Homer Furnace Company, Coldwater, Michigan. The sign is decorated in colors designed to attract attention. It is complete in detail and ready for installation.

This is one of the methods in use by the Homer Furnace Company to help the installer of Homer furnaces to move the goods. This sign can be had free of charge by distributors of Homer furnaces, the only thing necessary for the installer to supply being the standard upon which to place the sign.

M. L. Evens happens to be a Coldwater installer of Homer furnaces.

For further information regarding the sign write to the Homer Furnace Company, Coldwater, Michigan.

Anderson Furnace Company Moves Into New House.

The Anderson Furnace Company, formerly located at 4227 Elston Avenue, Chicago, is now all fixed up and ready for business in its new home at 4609 Elston Avenue.

August Anderson is a real progressive and is taking an active part in the organization of the United Sheet Metal Contractors of Chicago.

"Service, although intangible, is as real as personality. It is one of the most valuable things in the world. It is an appraisable commodity of commercial value and can best be sold by advertising."—Edwin Bird Wilson.

Illustration Shows How Homer Furnace Company, Coldwater, Michigan, Helps Furnace Installers.

Pattern Shows How to Make Pipe Connections That Must Be Made in Taper and in an Offset at Same Time.

Fittings of This Kind Are Found Necessary in Furnace Work More Often Than Elsewhere.

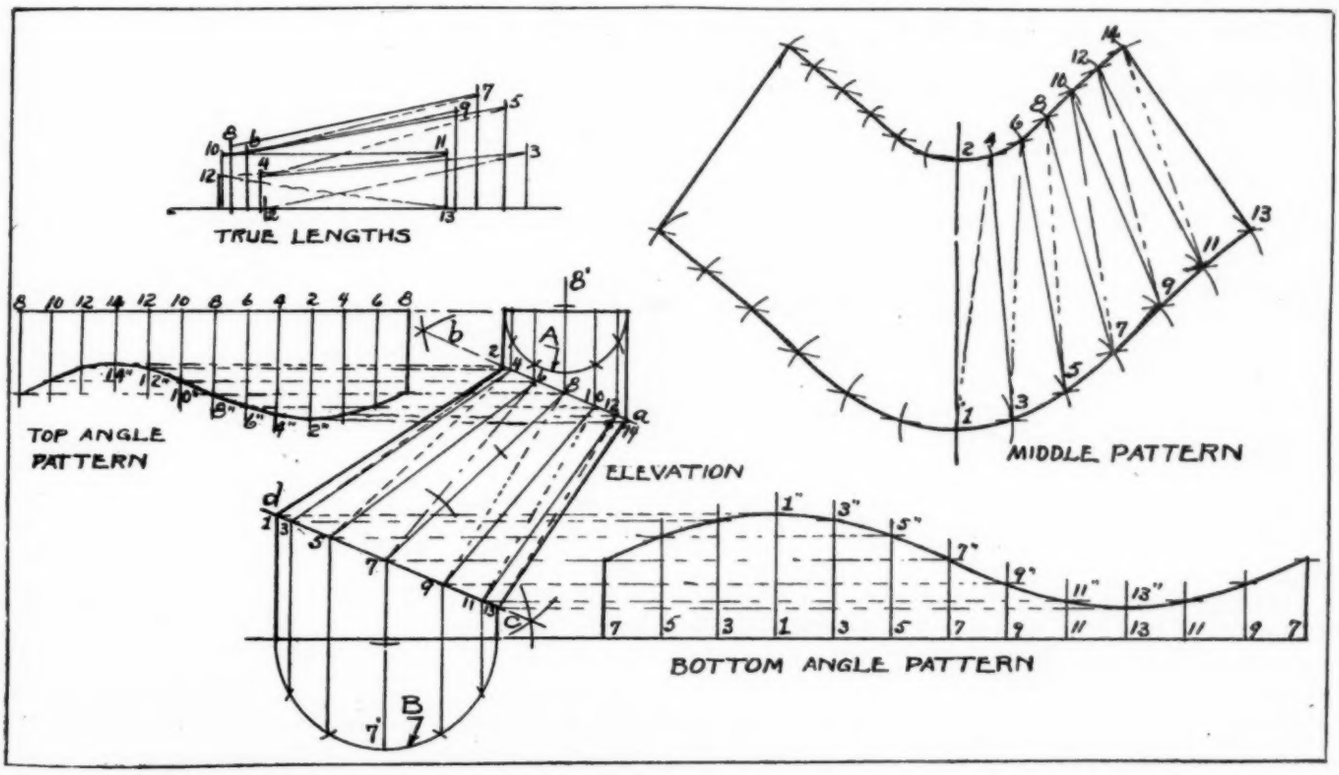
Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by O. W. Kothe, Principal, St. Louis Technical Institute, St. Louis, Missouri

NOW and then the workman finds pipe connections that must be made in a taper and in an offset at the same time. Fittings of this kind are more frequent in furnace work than elsewhere, and so we might ascribe this problem to that field of the work.

First, draw the elevation, making the central line 7′-7-8-8′ to the desired angle and rise. Then bisect the miters c-d and a-b. After which describe the half-sections A and B to correspond with the diameter of pipe that must join to these ends. Divide these half-sections in any number of equal spaces and square lines into the miter line as shown. This will give points 1-3-5-7, etc., also points 2-4-6-8, etc. Join these points with the triangular lines, thus giving body to the middle piece and also dividing it into triangles. Be sure to draw your lines so that you will step from one point to another, as from 1 to 2; 2 to 3; 3 to 4; 6 to 6, etc.

To obtain the true length of these lines, we must pick them up and set them over into the diagram of true length. So we pick line 2-3 and set on a horizontal line; from point 3 in this line we erect a line equal to line 3 of section B. Then join 2-3 with a line, and this is a true length. Next pick the elevation line 3-4 and from the last point 3 in horizontal line of diagram, set line and erect a line from this point equal to sectional line 4 of A. Then join 3-4 with a line and you have the true length. After this pick line 4-5 and from 4 in the horizontal line, set off this line and erect one equal to the line 5 of section B, and 4-5 is the true length. Repeat in this way until all lines have been transferred in their relation into diagram as true lengths as shown.

To set out the patterns observe that the end angles set on the middle piece and, therefore, we must first develop the pattern for angles at top and bottom so that we can pick the girth as 2″-4″-6″-8″, etc., also 1″-3″-5″-7″, etc., that we may use these spaces as girth spaces for developing the middle piece. Observe this saves developing two sections through the miter line, and as we must have the angle anyhow, we might as well use those miter cuts for girth spaces. So for the pattern of the top angle pick the girth from section A and develop the same as any ordinary elbow. In the



Working Drawing Shows How to Make Pipe Connections in Taper and in an Offset at the Same Time.

same way to develop the pattern for the lower angle, pick the girth from section B and set off as 7-7, then project your lines and you will have the pattern.

To start the middle pattern draw any line at 1-2 equal to 1-2 of the elevation. Then pick girth space 1″-3″ and 2″-4″ from our angle patterns, and using points 1 and 2 as center, strike arcs at 3 and 4. Then pick the true length 2-3 from diagram, and using point 2 in pattern as center, cross arcs in point 3. Next, use true length 3-4, and with the new point 3 in pattern as the center, cross arcs in point 4. Next, pick the girth spaces 3″-5″, also 4″-6″ from angle patterns, and using the new points 3 and 4 in pattern as center, strike arcs as at 5 and 6. Then pick the true length 4-5, and using the new point 4 in pattern as center, cross arcs in point 5. After this pick the true length 5-6 from diagram, and using new point 5 in pattern as center, cross arcs as in point 6. Repeat in this way until all points 13 and 14 are established. Then draw lines through all points where arcs cross and you have your pattern finished.

Owing to the tapering nature of this middle piece, edges for peaning or riveting should be allowed extra, otherwise, in bending the edges, our fitting will become a little smaller and our end pieces are liable to telescope into the middle piece.

United States Metal Contractors of Chicago Approve and Sign Constitution and By-Laws.

New Association Is Organized on Basis Which Will Make Possible Employment of Field Secretary Who Is to Devote His Full Time in the Service of the Members.

ALL set and ready to go!

Thursday evening, June 14th, the United Sheet Metal Contractors of Chicago discussed, voted on, approved and signed their Constitution and By-laws, the meeting being held in the Hardware Club, with Chairman Martin Gold of the Abbey Sheet Metal Works as presiding officer.

Secretary William J. Combs read the minutes of the May 31st meeting, at which a committee was appointed to draft a Constitution and By-laws.

Chairman Gold called on Joe Goldberg, of the Excelsior Steel Furnace Company, for remarks and the members listened to some very practical statements from Joe, who is known to nearly every sheet metal contractor in the city.

After remarks by Fred Papenbrook, of the Acme Sheet Metal Works; O. M. Bales; P. D. Griffen, of the Ace Sheet Metal Works; L. Gutman, of the Active Sheet Metal Works, and A. G. Pedersen, the real business of the meeting was taken up and the proposed Constitution and By-laws were read, section by section, amended in a few instances and passed without a dissenting vote.

After the vote each contractor came forward, signed the Constitution and By-laws and paid his initiation fee of $10.00 and thus became a real, honest-to-goodness member of the United Sheet Metal Contractors of Chicago.

Initiation Fee to Be Raised July 15th.

The temporary officers remain in charge until the close of the charter which is held open until July 15th, at which time it is the intention to raise the initiation fee very materially, so that it behooves sheet metal contractors to get busy and "join up" before the advance.

The present initiation fee is $10.00 and the monthly dues are on a percentage basis of each member's annual business—1/25 of 1 per cent.

For example:

If you do $10,000 a year, your monthly dues will be $4.00, or a total of $48.00 a year, which is less than half of the amount that a journeyman sheet metal worker pays to his union. Surely a very reasonable figure, if the organization is to do any real work. The maximum that any member will be required to pay is $10 per month, no matter how large his business is.

Field Secretary Papenbrook.

It was also announced that Mr. Fred Papenbrook had been engaged as Field Secretary.

Mr. Papenbrook has had considerable experience and success in organization work and he will, for a certain period, devote his entire time to the matter of presenting to the sheet metal contractors of Chicago the opportunity which now confronts them—an organization by which they will be able to overcome many of the handicaps which now harrass them.

It is the intention, when the heavy part of the membership campaign is over, that Mr. Papenbrook will devote a considerable portion of his time toward assisting the members in such matters as uniform cost records, relation with employees, differences with supply houses, disputes with other sheet metal contractors, etc.

Owing to the Annual Convention of the National Association of Sheet Metal Contractors, there will be no meeting until Thursday, July 5th, at 8 p. m. The Hardware Club, eleventh floor of the State & Lake Building, is the meeting place as usual.

Constitution and By-laws.

The full text of the Constitution and By-laws, as finally adopted, follows:

Constitution.

Article 1.

This association shall be known as the United Sheet Metal Contractors of Chicago.

Article 2.—Object.

The object of this association shall be the promotion and protection of the business interests of its members; the maintenance of just and uniform commercial practices; to foster a feeling of confidence among its members; to enlist the assistance of all engaged in the sheet metal business to a mutual interest in each other's welfare; to foster a friendly feeling, with a view to amicable business relations.

By-Laws.

Article 1.—Membership.

Section 1. Individuals, firms or corporations engaged as employers in any of the sheet metal trades, equipped and

conducting business in a permanent location, shall be eligible for active membership.

Section 2. Representatives of any supply house selling to the sheet metal trades shall be eligible for associate membership, without vote.

Section 3. Applications for membership shall be made in writing, accompanied by the initiation fee prescribed. Proposals for membership shall be acted upon at any regular or special meeting of the association.

Section 4. Every member shall be entitled to an equal voice and vote upon all questions coming before the association. Corporations or firms shall be considered as individual members, having but one vote.

Section 5. Any member may withdraw from the association upon giving thirty days' notice in writing, if he is not in arrears for any dues or assessments: provided, however, that no withdrawal shall be accepted during a temporary suspension of business during a strike or lockout.

Article 2.—Officers.

The officers of the association shall consist of a President, a Vice-President, a Secretary and a Treasurer, who shall be elected annually, as hereinafter provided for, and who shall hold office until their successors are duly elected and qualified.

Article 3.—Duties of Officers.

Section 1. President: The President shall preside at all meetings of the association, appoint all committees, and be an ex-officio member thereof, unless otherwise ordered by the association.

Section 2. Vice-President: In the absence of the President the Vice-President shall perform all the duties of the President.

Section 3. Secretary: The Secretary shall keep a correct list of the membership and a record of the meetings of the association in books provided for that purpose. He shall collect all moneys due the association and turn same over to the treasurer; he shall also perform such other duties as are usual to the office.

Section 4. Treasurer: The Treasurer shall receive and keep an accurate account of all moneys paid him by the Secretary. He shall deposit the funds of the association in a depository designated by the association. He shall pay out no money except upon the order of the association, signed by the President and Secretary. He shall make a report at the annual meeting and turn over the balance at the expiration of his term of office to his successor. He shall receive such remuneration for his services and shall be bonded for such an amount as the association may decide.

Article 4.—Fees and Dues.

Section 1. The initiation fee for active membership shall be $10.00. The annual dues shall be at the rate of 1/25 of 1% of the annual business of the member in question, payable monthly in advance. The maximum annual dues, however, shall be $120.00.

Section 2. Associate membership dues shall be $10.00 per year, payable in advance; no initiation fee is required.

Article 5.—Affiliation with State and National Associations.

This association is affiliated with the National Association of Sheet Metal Contractors through its membership in the Illinois State Association of Sheet Metal Contractors and entitled to all the benefits and privileges of such membership.

Article 6.—Meetings.

association shall be the regular meeting in January.

Section 2. The regular monthly meetings of the association shall be held on the third Thursday of each month.

Section 3. Special meetings may be called by the President or upon the request in writing of five members.

Article 7.—Quorum.

A quorum shall consist of seven members.

Article 8.—Arrearages.

Any member in arrears four months for dues, or other obligations to the association, shall be subject to suspension or expulsion by a majority vote of the members present at a regular meeting, due notice of such contemplated action being sent to such delinquent member by registered letter.

Article 9.—Mutual Protection.

For the purpose of mutual protection and assistance, no member shall at any time enter upon any work, operation, or job, once begun by another member, without first obtaining the written consent of the member holding the contract for such work, operation, or job. In the event of said member's inability to do the work and the refusal of his consent, then the matter shall be presented to the officers of the association for consideration, and their decision shall be final.

Article 10.—Trial of Members.

Section 1. Any member charged with violating the constitution or by-laws or rules adopted by the association, or conduct unbecoming a sheet metal contractor, shall have his case submitted to a committee appointed by the President. The committee shall make its report to the association and if found guilty the member so charged may be censured, fined, suspended or expelled by an affirmative vote of two-thirds of the members present.

Section 2. No member shall be tried upon any charge without having been duly informed of the charge against him, prior to investigation.

Article 11.—Amendments.

All amendments to these by-laws shall be submitted in writing at a stated meeting and lay over until the next stated meeting, and may be adopted by a majority of the members present, due notice of such amendment being mailed to all members immediately following the meeting at which the amendment is submitted.

Clayton & Lambert Reduce Line of Firepots and Torches.

A short time ago the Clayton & Lambert Manufacturing Company, Detroit, decided that the only way to keep the steadily mounting cost of labor and material from seriously affecting the selling prices of their fire-pots and torches for sheet metal workers would be to concentrate on a standardized line, and by quantity production not only prevent further advances but actually effect a reduction in prices.

Letters were written to their wholesale distributors explaining their position, with the pleasing result that their distributors fully agreed that the proposition would also result in benefits to them, and so it has come about that in their new catalog which Clayton & Lambert will soon have ready for distribution, there will be only seven firepots and nine torches—those which many years have shown to be most favored by the sheet metal men.

A number of the fire-pots and torches which it has been decided to discontinue are still on hand and can be secured, so long as the stock lasts, at the prices quoted in their list dated October 30, 1922.

Circular Number 8 shows the lines on which Clayton & Lambert will concentrate in the future, special attention being called to firepots Numbers 12 and 22, the dealers' prices being respectively $5.60 and $6.00 each, both being of the one gallon capacity and alike except that Number 12 is fitted with air valve and bulb, while Number 22 has standard patented pump.

Sheet Metal Contractors of Peoria, Illinois, Elect Officers for New Year.

At a regular meeting of the Sheet Metal Contractors' Association of Peoria, Illinois, June 12, the following named men were elected as officers for the ensuing year:

President—Rudolph Strehlow.

Vice-President — Charles N. Louis.

Secretary—Frank I. Eynatten.

Treasurer—Rudolph J. Jobst.

Joseph Oechsle was elected as a trustee for three years.

Peoria expects to be well represented at the National Sheet Metal Contractors' Convention, as at least 75 per cent of the membership expect to attend.

Ill health may, but age will not lose you your position. Not if you keep trying to make yourself more efficient in your work.

Reduced Fares for St. Louis Conventions of Sheet Metal Contractors and Furnacemen.

Secure Certificate Receipt From Your Local Ticket Agent When You Buy One-Way Ticket to St. Louis.

WHEN you buy your ticket to St. Louis, Missouri, for the Annual Conventions of the National Association of Sheet Metal Contractors, the Missouri Sheet Metal Contractors' Association and the Western Warm Air Furnace & Supply Association, which are to be held during the week of June 25 to 29 in that city, be sure to secure a "certificate receipt" from your local ticket agent, showing that you have bought and paid for a *single fare* ticket from your home city to St. Louis.

It is necessary that at least 250 of these certificates be presented for "validation" in order for you and other delegates and guests to obtain the reduced rate for the trip back home—*and you must obtain the certificate receipt when you buy your ticket to St. Louis.*

Missouri sheet metal contractors should notify Secretary Otto E. Scheske, 3818 Moffitt Avenue, St. Louis, if they wish to attend the Missouri State Convention.

Members of the National Association and of the Western as well as others who will attend are requested to notify Secretary E. B. Langenberg, care Haynes-Langenberg Manufacturing Company, 4545 North Euclid Avenue, St. Louis, in order that proper arrangements may be made for their comfort and entertainment during the conventions.

It is also important that hotel reservations be made at once, if not already arranged for.

The headquarters will be at Hotel Statler, and all the business sessions will also be held there.

You will be in good company at the conventions, for the most progressive men in the sheet metal business will attend, and you will have many opportunities to talk over your business problems with your fellow contractors—and during the leisure hours there will be plenty of fun and other fine entertainment.

All the old stand-bys will be there—Judge Werner, Arthur Lamneck, Paul Biersach, George Harms, George Thesmacher, "Tony" Howe, E. B. Langenberg, "Jule" Gerock, "Herb" Symonds, Paul Brandstedt, "Al" Friedley, Jim Barrett, "Al" Lichty, R. E. Pauley, E. L. Jaynes, Otto Geusserhainer, Fred Nesbit, Harry Hussie, George Walchli, J. C. Neuman, "Trow" Warner, "Rudy" Menk, Louis Kuehn—we could keep on with many more names, but these will give you an idea of the sort of men you will have an opportunity of talking with about your problems.

So we shall be looking for you at the Statler during the week of June 25th—in St. Louis.

Illinois Central Will Run Special Sleeping Cars to St. Louis Conventions.

Arrangements have been made with the Illinois Central Railroad for special sleeping cars which will be attached to their Diamond Special leaving Chicago 11:30 P. M., Standard Time, Sunday, June 24th, arriving at St. Louis at 7:23 A. M. The special cars will be open for occupancy by 9:30 P. M., Sunday.

A special reduced fare on the certificate plan has been secured. Purchase a one-way ticket at $10.41, asking the ticket agent for a certificate. If there are 250 or more in attendance at the convention traveling by rail who present these certificates, ticket at half fare will be sold for the return trip, making the round trip amount to $15.62. The rate for a lower berth is $3.75 and upper $3.00. Drawing room, accommodating three people, $13.50.

Reservations are now being made by W. G. Ferstel, District Passenger Agent, Illinois Central, 208 South La Salle Street, Chicago; telephone Wabash 3280. Phone or write him at once and he will make your reservations.

Milwaukee Sheet Metal Contractors Will Have Three Delegates to St. Louis Convention.

The following have been chosen as delegates from the Master Sheet Metal Contractors' Association of Milwaukee to the National Convention in St. Louis, June 25 to 29:

Frank Romberger, E. B. Tonnsen and Louis Hoffmann.

Their alternates are:

Rudolph Biersach, W. Hammann and Adolph Padolske.

Rough Sketch of Michigan Sheet Metal Outing Program Shows Good Time Ahead.

In view of the fact that the program for the Annual Outing of the Michigan Sheet Metal & Roofing Contractors' Association, which is to be held at Gull Lake, near Battle Creek, June 29 and 30, is not completed, we are drawing up an outline of the activities as they will be scheduled.

On Friday afternoon, June 29, the guests will be arriving and the time will be mostly spent in registration and getting acquainted. In the afternoon of the first day there will be land sports, followed by a ball game. This game will be a contest between a team from Detroit and one picked from Lansing, Bay City, Saginaw and Flint.

Friday evening will be taken up by a dance.

On Saturday forenoon, June 30, there will be another ball game between the winners of Friday's game and a team picked from Grand Rapids, Kalamazoo, Battle Creek and Jackson.

In the afternoon a program of water sports will be put on, including swimming, racing, boat and canoe races, together with fancy diving and the like. This part of the program will be followed by a two-hour special program by several members of the Travelers' Aux-

iliary, including Doherty, Pierson, Blanchard and the Tee-Bee trio.

All the free entertainment, such as boating, canoeing, launch rides, dancing, and the prizes are being furnished by the Kalamazoo and Battle Creek Associations. In fact, these Associations are taking complete charge of the entire affair. One more reason why it will prove a success.

Here's Some of the Things You're Going to Hear at the St. Louis Convention.

E. B. Langenberg, Secretary of the National Association of Sheet Metal Contractors, writes in regard to Publicity for the annual convention to be held at St. Louis, June 25 to 29, as follows:

To AMERICAN ARTISAN:

Four outstanding speakers at the annual convention of the National Association of Sheet Metal Contractors will give the sheet metal contractors food for thought.

On Tuesday morning, Ex-Senator Xenaphon P. Wilfley will make an address on Service. This will be an inspirational address and will clarify in the minds of many men what service means.

On Wednesday W. C. Connett, Vice-President of the Liberty Central Bank in St. Louis, will give an address on Relations of Credits to Business. This is one feature that many contractors are lax in their knowledge of. Mr. Connett will stress the importance of this most vital part of anyone's business.

The other speaker is F. Paul Anderson, Dean of the Research Bureau of the American Society of Heating & Ventilating Engineers' Laboratory, Pittsburgh, who will speak on the Necessity of Research and Its Relations to the Sheet Metal Contractor.

On Thursday morning, Dan A. Ruebel, Past President of the Advertising Club of St. Louis, will speak on Advertising and Its Relation to Business.

There is enough meat in these four addresses that, if properly digested and considered, will be of inestimable value during the year to come.

During the past year every Committee has been working diligently and the reports of these Committees and the discussions from the floor are of very great importance to every Sheet Metal Contractor.

The Local Committee feels that during the week of June 25 to 29 all roofs should be allowed to leak, all skylights take care of themselves, all furnaces cool off, and all metal ceilings and cornices stay suspended of their own volition, and that every sheet metal contractor in the United States should consider himself under moral obligation to attend this convention and contribute his share of information, and in return receive from others other information that he can use in his own business.

St. Louis Convention Committee.
E. B. LANGENBERG,
Secretary.

New Elbow Machine Makes Complete Three-Piece Elbow in Two Minutes.

Many a time you have had to look up an old issue of AMERICAN ARTISAN to find patterns for odd-sized, adjustable elbows, laboriously cut the pieces out with a pair of shears and finally put them through an edger and rolling machine, the whole transaction taking as much as an hour, and sometimes longer, to complete the job after you found the pattern.

It took a real sheet metal mechanic to design and build a machine by which all this can now be accomplished in a few minutes.

The Purnell Improved Elbow Edging and Cutting Machine, which is shown herewith, cuts and completes an eight-inch, three-piece elbow in two minutes from a straight length of pipe, and the elbow is so well made that while it is easy to adjust, it is almost impossible to separate the pieces without destroying the elbow.

One revolution of the pipe in the machine cuts to the proper shape and edges in one operation one elbow segment. Two such operations complete the three segments, which are then snapped together by hand, completing the adjustable elbow.

The crimping rolls on the front of the machine crimp the end of elbow.

B. Trohn, 14 Beechwood Avenue, New Rochelle, New York, who has had one in his shop for some time, says that the machine, man for man, will do more work and of better quality than any other, and that it is especially good for making odd-sized elbows.

The regular complete outfit includes everything needed for cutting and making 8, 9, 10 and 12-inch elbows, which may be made of

Purnell Improved Elbow Edging and Cutting Machine.

either tinplate or galvanized iron. A small extra charge is made for the additional jigs and blue prints for elbows from 7-inch to 36-inch, in 90 degrees or other angles.

For further information, readers are advised to write to the Chicago Elbow Machine Company, 810 North Boulevard, Oak Park, Illinois, which is also the office of Enoch Purnell, for many years a successful sheet metal contractor, who uses the machine in his own shop and sells it to his fellow sheet metal contractors.

Who pays the taxes? may be a question difficult to answer, but everybody knows that the man or woman who is careless about fire hazards is the one who greatly increases the amount of taxes and adds to the high cost of living which the entire community is called upon to pay.

Ventilators Solve the Pure Air Problem.

Some wise philosopher of old has aptly said that there was nothing new under the sun. Æolus may sound like something new at first blush, but a short perusal of Webster shows us that Paul Dickinson, Incorporated, 3334-3354 South Artesian Avenue, Chicago, Illinois, for thirty-five years manufacturers of roof ventilators, are debtors to ancient Greek mythology for the name chosen to represent their product, the Æolus Ventilator.

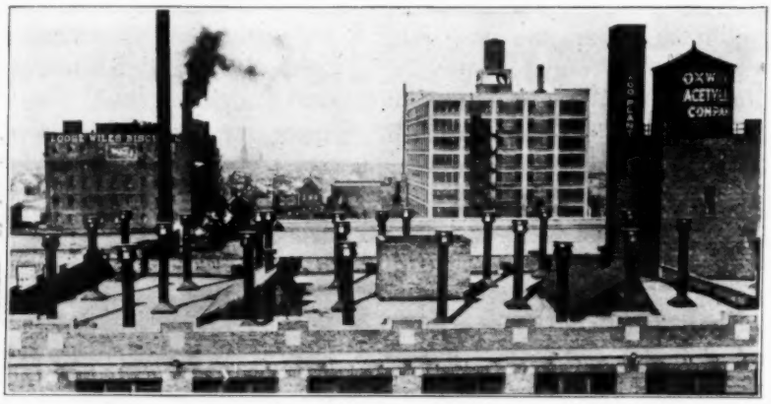


Illustration Shows the Oxweld Acetylene Company, Thirty-sixth and Justine Streets, Chicago, Equipped with Thirty 20-Inch Galvanized Æolus Ventilators.

The Company has a new folder out describing the Æolus ventilator. The pamphlet contains numerous illustrations showing buildings which have been equipped with the Æolus ventilators. One of the accompanying illustrations shows the factory of the Oxweld Acetylene Company. On this factory there are thirty 20-inch galvanized Æolus ventilators.

Æolus Ventilator.

The Company says:

"Like Æolus of old—God of the Winds—Æolus ventilators harness the passing air currents and put them to work. In the instance of the ventilator they are forced to pump impurities from the buildings on which they are installed, replacing them with air which is clean. The construction of this ventilator is such that every breeze, no matter where it arises, can be utilized. It has no movable parts to get out of order. It is sturdy, steady and constant in its operation."

For further information write to Paul Dickinson, Incorporated, 3334-3354 South Artesian Avenue, Chicago.

Pennsylvania Salesmen's Auxiliary to Meet at Allentown with Sheet Metal Contractors July 26 and 27.

In the following letter Secretary W. F. Angermyer, of the Sheet Metal Contractors' Association of Pennsylvania, calls the attention of the members of the Salesmen's Auxiliary to the convention to be held at the Hotel Allen, Allentown, July 26 and 27:

TO THE MEMBERS OF THE AUXILIARY:

The Sheet Metal Contractors' Association of Pennsylvania will meet in convention at Hotel Allen, Allentown, with the Distributors' and Salesmen's Auxiliary, Thursday and Friday, July 26-27, 1923.

For the State Association, I want to take this opportunity to thank the officers and members of the Auxiliary for the splendid work they have done for the Association in the eastern part of the state. I am sure it will be beneficial to all concerned.

If you have any suggestions for the program, I should be pleased to receive them by early mail. A copy of the program will be mailed to you when it is printed.

Thanking you for your splendid coöperation and looking forward to meeting you at Allentown, I am,

Yours for more and better sheet metal work,

W. F. ANGERMYER,
Secretary.

Young Men Are Wanted to Learn Sheet Metal Trade in Citizens' Committee Trade School.

Reference has been made several times to the excellent results obtained in turning out a steady supply of young men who have been trained in sheet metal work in the Trade School, operated by the Citizens' Committee to Enforce the Landis Award, and located at 500 South Throop Street, Chicago.

Director C. L. Bailey, of the Trade School, urges contractors to give the matter their serious consideration; he also requests their coöperation in having new branches established in the school. The Citizens' Committee in a recent circular says:

"Hundreds of young men are learning to be bricklayers, carpenters, plumbers, sheet metal workers, and painters and decorators at our free Trade School, 500 South Throop Street. We expect soon to add courses for other building trades.

"We have a superintendent and five inside and two outside instructors for the day classes and two inside instructors for the evening classes. Ten men is the limit to each day class. The courses consist of eight hours of intensive training each day for four weeks, equipping men with the rudiments of their respective trades.

"The demand for these apprentices is so great that they can immediately get work at good wages. They come back to the school for

further instruction one day every two weeks.

"In our evening classes scores of foremen and thousands of journeymen are perfecting themselves in their trades.

"We believe that everyone who is willing to work and wants either to learn a trade, or to perfect himself in it, should be encouraged and assisted."

L. A. Brand Submits Plan of Cistern Water Filter for J. A. Brandt, Mooseheart.

The accompanying sketch is that submitted by L. A. Brand, of the Riverside Hardware Store and Sheet Metal Works, Sioux City, Iowa, in answer to the inquiry by J. A. Brandt, Mooseheart, Illinois, for a cistern water filter which appeared in the issue of May 19 on page 22.

Mr. Brand also makes the following comments in the way of further explanation:

To American Artisan:

In answer to J. A. Brandt's inquiry for a rain water filter, I believe the filters that father made 40 years ago and which I am still making today are as good as can be made.

I have one of these in my own home. But I think the care of the water supply is as important as the filter. Therefore, I do not favor a filter that remains full of water to become stagnant or to freeze if not continually drained.

I avoid water from melting snow or hot summer rains, catching only spring and late fall rains. After the roof is thoroughly washed, the water is turned directly through the filter in the cistern, measuring the water before and after rains. The amount caught is estimated in barrels, to which is added one tablespoon of salt to each barrel.

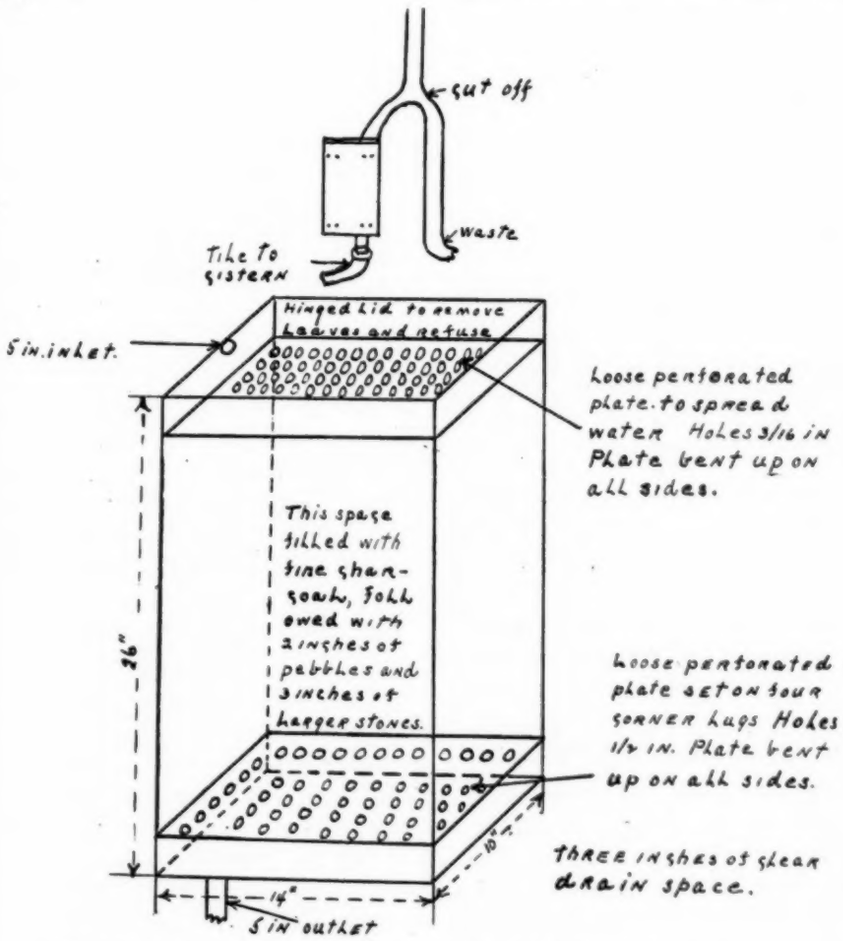
I also use a chain or bucket-chain pump. This serves the purposes; namely, it draws the water and areates the water in the cistern.

I find it impossible to remove some discoloration, which is caused by cedar shingles.

Were it not for the bubbles or beads, it would be hard to tell whether anything were in a glass of water when it is taken from a metal roof.

I have received quite a few compliments on our water from doctors and others.

L. A. Brand.


cut off
waste
Tile to cistern
Hinged lid to remove Leaves and refuse
5 in. inlet.
Loose perforated plate to spread water Holes 3/16 in Plate bent up on all sides.
This space filled with fine charcoal, followed with 2 inches of pebbles and 3 inches of larger stones.
36"
Loose perforated plate set on four corner lugs Holes 1/2 in. Plate bent up on all sides.
THREE inches of clear drain space.
14"
10"
5 in outlet
Charcoal must be washed until all dust is removed and until water runs clear The box is 16"x14"x26" made of 27 gage galvanized. The perforated plates are of 26 gage galvanized

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Frye Offers Solution to Peter Liver's Rectangle Pipe on Cone Problem.

In our May 19 issue, on page 26, a query appeared by Peter Liver, Winona, Minnesota, asking how a rectangle pipe could be made to fit onto a cone.

In reply to this query, Harry Frye, Tullahoma, Tennessee, offers the following solution:

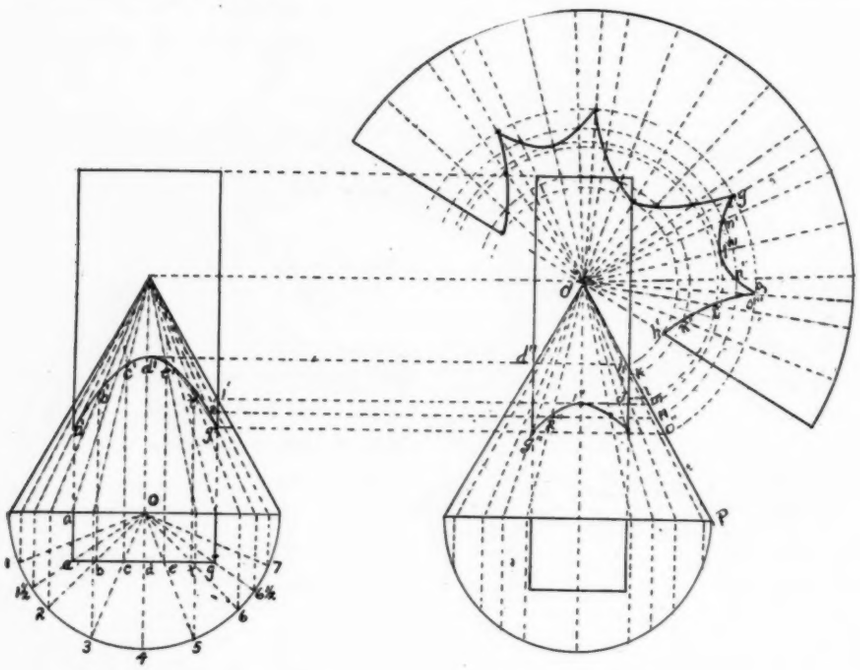
To American Artisan:

The solution of Peter Liver's problem in your May 19 issue is a nice study of conical sections for the student in pattern drafting, the case being a cone cut vertically to a certain depth by four cutting planes in the shape of a rectangular pipe, the proper depth being projected from a plan and side elevation of the object.

First, draw a front and side elevation of the cone, and a plan for each, showing a plan of the cutting planes. Divide the cone into a number of equal divisions, as 1, 2, 3, etc. Radiate lines from center to these points of division and also through the corners of the plan of the pipe, as to 1½ and 6½.

Square up lines from these divisions to the base line of the cone, then radiating line from the apex of the cone, intersecting the vertical lines just drawn in the base line. Then the set of radiating lines in the plan are plan lines of the radiat-

ing lines in the front elevation. From the points a, b, c, d, e, f and g where the sides of the rectangular pipe cut the cone, erect perpendiculars, cutting corresponding radial lines in the elevation, establishing the corners of the rectangular pipe a′ g′, and cutting the side of the cone on a plane 1′ 2′ g′.



Square lines across from 1′ 2′ g′ to the side elevation, establishing points 1″ 2″ g″. From plan of side elevation project side elevation of rectangular pipe to the side elevation of the cone, establishing point d″ the height of the cut in the wide side of the pipe.

Square out from d″ a line to d′, establishing the height of the cut in the front elevation of the wide side of the pipe. A curve traced through 1″ 2″ g″ gives pattern for the narrow side of the pipe, and a curve traced through a′ b′ c′, etc., gives the pattern for the wide side of the pipe.

With O′ as a center and O′ P as a radius, strike the stretchout of the cone. Divide into the same number of equal divisions as the plans and radiate lines from center O′ to these points. Square out lines from points, j, j, 1, etc., to k, l, m, and o″. With O′ as center and radii O′k, O′l, O′m, successively strike arcs concentric with the arc of the stretchout. The concentric arcs intersect lines in the pattern corresponding to lines in the side elevation, as in k′, l′, m′, etc. Curves traced through these points complete the pattern for the cone as cut by the rectangular pipe. It will help the student to study out the moves not detailed in the explanation, and the mechanic can leave out all the unnecessary moves in laying out the pattern.

HARRY FRYE.

Tullahoma, Tennessee.

Robert R. Barden Opens Sheet Metal Shop at Carbondale, Illinois.

A new sheet metal shop is being opened at 207 West Monroe Street, Carbondale, Illinois, by Robert R. Barden.

Mr. Barden states that he would be glad to receive catalogues, etc., pertaining to the sheet metal trade.

Bulletin Explains Different Uses of Soft and Hard Temper Copper.

One of the articles in the last number of the bulletin issued by the Copper & Brass Research Association, 25 Broadway, New York City, gives a rather comprehensive explanation of the different tempers of copper that can be furnished and the uses to which they are specially adapted. It should be of great interest to those who do architectural copper and copper roofing work.

It is the intention to substitute RT and CT for the various grades of softness and hardness heretofore called for. RT stands for roofing temper and means the softer material that has to be worked, while CT means cornice temper which gives a greater rigidity so that when formed the material will hold its shape.

The article explains the places where both classes of material are best adapted. Copies of the Bulletin may be secured by writing to Copper & Brass Research Association, 25 Broadway, New York City.

Notes and Queries

Tank Heater.

From Van Denberg Supply Company, 116 North Madison Street, Rockford, Illinois.

Who makes a cast iron tank heater for heating water for domestic use. We are particularly anxious to get on track of a heater that is as low in height as possible, but of sufficient capacity to take care of from 300 square feet of radiation.

Ans.—Bryant Heater Company, 15 East Van Buren Street, Chicago, Illinois.

Cemetery Gates.

From H. H. Christensen, Ceylon, Minnesota.

Kindly inform me who makes cemetery gates.

Ans.—Fred J. Meyers Manufacturing Company, Hamilton, Ohio, and E. P. Smith Wire and Iron Works, 2346 Clybourn Avenue, Chicago, Illinois.

"Kernchen" Ventilator.

From C. B. Rose, 322 South Carolina Street, Louisiana, Missouri.

Can you tell me who makes the "Kernchen" ventilator?

Ans.—The Kernchen Company, 111 West Washington Street, Chicago, Illinois.

Coke Plates.

From George O. Crouch and Son, 3133 Market Square, Chattanooga, Tennessee.

Can you tell us where we can buy 20 boxes 135-lb. 20x28 high coke plates?

Ans.—Merchant and Evans Company, Philadelphia, Pennsylvania.

Sargent Discusses Problems of Distribution as They Affect Manufacturer, Jobber and Retailer.

Prominent Hardware Manufacturer in Address Before Southern Hardware Jobbers Reviews Some of the More Important Factors in Building Success.

DURING the last thirty years we have witnessed the development of some new and interesting ideas in distribution methods. Some of these appear to have been remarkably successful. Some are still in an experimental or embryonic condition. Whatever may be our own individual opinions as to the favorable or unfavorable reaction on our own organizations of these distributing or merchandising methods, it seems obvious that where they have had rapid and consistent growth, this growth is in itself sufficient proof that they are filling a definite need in the business world and to that extent serving the public.

Many of us in the selling game have found that it is well worth while to study some of this newly developed merchandising, for we discover it tells us something as to the creation of index demand and larger markets for products, and a great deal as to expense of doing business, and about turn-over. Here, after all, is the goal to aim for—increased turn-over, always at a profit.

The merchant who can bring to the public the right goods at the right price, quality considered, is bound to succeed.

It is not, however, enough that a merchandising method be sound, it must be efficiently and effectively carried through. We may say, then, that the success of a method of distribution depends on the extent in which it meets the test of economic soundness and efficient management.

Function of Hardware Jobber.

Let us consider the function of the jobber in the chain of distribution. The jobber is a stabilizer. His position, midway between the manufacturer and the retailer, helps to keep an even flow of business. His contact with and knowledge of broader markets should enable him to anticipate the needs of his customers more accurately and further ahead than can the retailer. His greater financial strength enables him to buy ahead when he sees heavy demand coming. With a well-rounded jobber's stock to draw from, there is no good reason for a retailer to carry a heavy stock and risk a sudden slump in the local market. It is the jobber's function to build up stocks when prices are relatively low and labor is cheap, thereby helping the manufacturer to keep going and helping to prevent the shortage of goods which later demand will produce.

We Work to Serve You Again

IF you have an idea and I have an idea and neither of us tells the other of our ideas, we go forth with an inflated notion of our own importance.

If, however, you tell me of your idea, and I tell you of my idea, we both have two ideas, with a fuller explanation of them both.

American Artisan and Hardware Record reaches every state in the Union.

Send us your difficult problems, and let the trade assist you in solving them.

The day of the salesman who goes after the largest possible order every time he calls on a customer, in an effort to load him up, has gone by. He has been superseded by the salesman who advises with his customer as to the proper quantity for him to buy, and who makes every effort to prevent him from overbuying. The jobber will not prosper when his customer's money is tied up in stock.

Campaign for Quality Merchandise.

It would be interesting if we knew what proportion of the average jobber's salesmen's time is put in on heavy or tonnage goods, which run into money faster than into profit. This is stuff that takes a lot of warehouse space and is expensive, if handled. Sales of these goods should not be neglected, as this class of material brings up the total of dollars and cents, but it is my impression that, because of it, honest-to-goodness shelf hardware suffers; yet there is a real opportunity for the jobber's salesman to sell a good grade of material if he will take the trouble to do it, not cheap street goods, but quality hardware, brass and bronze—I refer to material sold by manufacturers who make their own prices, who cannot afford to ask you to makes their prices for them.

There is a big campaign on now under the auspices of the Copper and Brass Research Association, advocating the use of brass and bronze instead of steel for all purposes, where simple durability and non-corrosiveness is required or is advantageous. There is a tremendous opportunity in this work to enlighten the dealer, and through him the public, on the use of better hardware. Why not get the benefit of this publicity by following it up through your salesmen with your customers?

Hardware in a building represents a very small percentage of its cost—somewhere between one and three per cent. The difference between quality hardware and the cheaper competitive goods is a still smaller percentage of the cost of the building—not over one-half of one per cent—and yet if properly sold to the prospective purchaser it ought to be worth at least one per cent more to him and more if the sale is consummated some time after the erection of the building, so that the results of usage and possible corrosion may be seen.

Turnover Versus Price.

And now we come back to the matter of turn-over. The average buyer thinks too much about price.

Excerpts from Address by Murray Sargent before Convention of Southern Hardware Jobbers' Association.

Did you ever notice that the reasons given for failures, as reported by Dun and Bradstreet, include such statements as "insufficient capital," "inefficient management," but never "paid too much for stock"? Whether a merchant carries a large or small stock, proper assortment and purchase at the right time are prime factors in his success. Reduced investment in comparatively inactive items will increase turnover.

How can we reduce the merchant's investment? By elimination. I have no doubt that those present here today are thoroughly sold on simplification which results indirectly in elimination of waste. The more we can get away from slow sellers which weight down catalogues and shelves, the better it will be for manufacturers, jobbers and dealers, which means better for the public. I note that the Southern Jobbers' Association has a committee for the handling of this problem. I hope that this committee will not only coöperate fully, but will take the initiative in speeding up action. There are great possibilities for service in this work—service to the industry and to the public.

Decimal System of Pricing.

Reference to elimination of waste and simplification naturally leads to the subject of the decimal or unit system, which I might define as the pricing of goods by the each, where convenient, or by the hundred. It seems unnecessary to take the time to discuss the various advantages of this method of pricing—they are sufficiently obvious and have been covered very fully in the trade press. Let us then consider the attitude of the trade generally on this subject. We have also formal votes of approval from the American Hardware Manufacturers' Association, the National Hardware Association, the National Retail Hardware Association, and most of the state and local associations and the National Association of Purchasing Agents. A questionnaire recently issued by the Hardware Manufacturers' Association shows a vote of 145 favoring its adoption and 45 opposed. I believe that a majority of those opposed would favor the pricing, but might hesitate to give their approval to changing their packing units. The results of a questionnaire by the National Hardware Association have resulted so far in 111 members favoring and 20 opposing. Here, some—if not most—of those who advanced objections are largely influenced by the confusion resulting from the use of both systems.

Now as to the retailers: An opportunity to express themselves was given by a hardware magazine which circulates, as I understand it, quite generally in all parts of the country. Three thousand eight hundred and sixty dealers voted for it, 61 opposed, and 12 had no choice. Already a number of manufacturers have adopted the system. Their testimony and that of jobbers and dealers who are actually using the system is practical evidence of what is accomplished in the way of savings. Those who approach the subject from the standpoint of doubt that it will work overlooked the fact that it is now working.

Canton Hardware Company Suffers $350,000 Loss by Fire.

The stock and building of the Canton Hardware Company, Canton, Ohio, were destroyed by fire June fifth, causing a loss of over $350,000.

There is an interesting story about the proposition of insuring the stock many years ago, as told by John B. Brothers, President of the Company:

"This shows that it pays to carry insurance," remarked Brothers, "although no insurance ever completely covers loss caused by a big fire."

The hardware company official then related that insurance on their building was placed at his own insistence and against the objections to such protection advanced by Johnson Sherrick, former president of the company and now dead.

"Mr. Sherrick felt we did not need much insurance because we were so close to the fire station," Brothers declared. "He would say, 'A fire could hardly get a start here before it would be put out.'"

These objections did not weigh with Brothers, and finally he offered to personally assume the premium obligations. His former partner capitulated in the end and the property was substantially covered.

The Canton Hardware Company has been in business 49 years and Tuesday marked its first serious fire.

Grand Rapids Bank Aids Paint Sales by Novel Installment Plan.

In the following reprint from the *Hardware Age* is given a description of an innovation in paint circles: "The Grand Rapids Saving Bank, one of the largest financial institutions in Grand Rapids, Michigan, which is participating actively in the 'Save the Surface Campaign,' recently initiated a novel scheme for enabling householders to pay for painting on the installment plan. Where people desire to do painting, but do not have the money, the bank will furnish the proper forms, enabling the property owner to pay a small amount down before the work begins, and a similar amount on completion of the work. The bank will discount the note for the balance, giving the contractor his cash, while the property owner repays the bank by depositing the balance due over a period of fifty weeks in either weekly or monthly installments.

"Before the work is started, the papers which comprise the contract for the painting, specifying all work to be done, must be submitted to the bank for its approval. The bank determines whether or not it is willing, on the basis of the credit standing of the property owner, and the contractor who indorses the note, to grant the loan. The bank will also assist in the campaign, it is said, in other ways."

It is well that a store in its advertisements and otherwise should extend a standing invitation to all; for the aged, the infirm, the mother and child it should provide a few seats.

Unusually Attractive Camping Window Display, Featuring Boy Scout Knives, Tents and Other Camp Necessities.

Howard C. Crabb Arranges "The Scout" for Belcher and Loomis Hardware Company, Providence, Rhode Island.

SCHOOL is closed! Vacation for thousands of boys and girls is no longer a dream, but a reality! Those Boy Scouts have already decided on Jones' woods on the banks of the Fox river for their camping grounds this summer. There are, however, a thousand and one things that a boy, in his excitement, might forget to take along on that camping trip. Here is your opportunity, Mr. Hardware Dealer, to make a beautiful and attractive window display, including all those little accessories that go to make for comfort and convenience. Don't let the proverbial corner druggist get in a line of camping utensils ahead of you. Have you got the agency for a good make of canoe? Here's your chance to bolt down another plank on the raft of future business.

The accompanying illustration was arranged by Howard C. Crabb for the Belcher & Loomis Company, 91 Weybosset Street, Providence, Rhode Island.

Boy Scout Knife and Camping Window Display Arranged by Howard C. Crabb for the Belcher & Loomis Company, Providence, Rhode Island. The Boy Scout Kneeling Lends Realism to the Display.

In explanation Mr. Crabb has the following remarks to make about the display:

"This display did the work. Ask any Boy Scout in our city where to get a scout knife, and he will tell you about this window display.

"The background was a woodland scene with a stream of water. I had real leaves (treated with dye to keep their color) pinned on the scene. A concealed fan blowing on the leaves, combined with the heat in the window, caused the leaves to sweat, giving the impression of the early morning dew dripping from the foliage.

"The Boy Scout, in full regalia, is kneeling down by the rocks at the edge of the stream. To give continuity to the picture, he is opening a can of beans with the can opener blade of his scout knife. The frying pan is over the fire and the coffee pot on the side. Say, wouldn't that give you an appetite

and make you feel just like getting out in the woods and roughing it for a while! And the first thing you would buy would be the scout knife, because that was the real thing that gave you that spring fever.

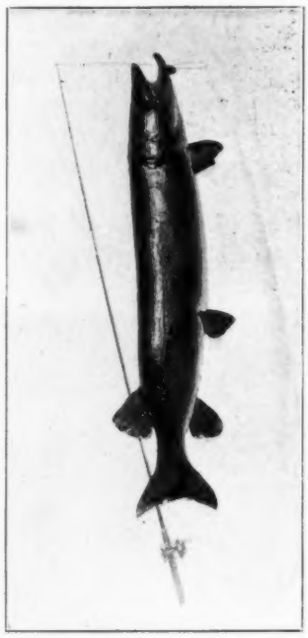
"The folded blanket, the pup tent and the lantern completed the camp scene. Boxes of scout knives were displayed on the grass and on pedestals and a loose one on the floor along with the signs couldn't help but make you say if you saw it, "Oh, boy, it's a dandy!" And you'd go and buy one just as hundreds of other people did. This window was a great success, and best of all it sold the knives."

Opening the Fishing Season With a Display of Live Fish.

The fishing season is now opening and with it come unlimited opportunities for increasing sales in fishing equipment. The approaching vacation season offers abundant chance for you to offer suggestions and open the way to sales.

In practically every state the fishing laws are different, therefore, you should see the state game and fish warden and secure all the recent data on fishing and place prominently in your fishing tackle display window a notice that you can supply all information on this subject for your state, together with a full line of the necessary articles. If you, yourself, are not enthusiastic about fishing, you should make it your business to inform yourself regarding some of the most talked of varieties so that you will be able to suggest the necessary equipment to your prospective customers. Many persons will come into your store with only a desire to fish and it will be up to you to give these prospects the correct data, etc., if you expect to sell them service as well as fishing tackle.

An exceedingly good idea would be to construct a small tank large enough to fit nicely into your window and connect it with water main. Then fill it with water and put six or seven good, live fish into the tank. This tank should be placed in the center of the window and surrounded with fishing equipment. If the fish are caught in a local pond or lake, call attention to this



fact, giving the name of the fish and any other interesting information that you can find about them. You will need to inform yourself thoroughly on the subject, however, because the fish in the tank will bring many inquiries, especially from boys, and here is your chance.

The Man Does Not Live Who Can Overwork His Brain.

"Don't be afraid of thinking too much. You can't. 'The more the mind does,' said William James, 'the more it can do.' A great doctor—Dr. Boris Sidis—recently said: 'In all my practice as a physician dealing with nervous and mental diseases, I can say without hesitation that I have not met a trouble caused by too much thinking or overstudy. What produces mental trouble is worry—emotional excitement—lack of interest in one's work.'

"So, don't be afraid. Think. Study. Plan. Train your mental powers. You cannot overwork the brain as long as you allow it time to recuperate.

"It is worry that destroys the brain—worry and fear and bad feelings and mental idleness.

Coming Conventions

National Retail Hardware Association and American Hardware Manufacturers' Association, Richmond, Virginia, June 18, 19, 20, 21 and 22, 1923. Herbert P. Sheets, Retailers' Secretary-Treasurer, Argos, Indiana, and Frederick D. Mitchell, Secretary-Treasurer, Manufacturers, 1819 Broadway, New York City.

Texas Association of Sheet Metal Contractors, Dallas, June 21 and 22. J. O. Walsh, 1216 Commerce Street, San Antonio, Secretary.

Western Warm Air Furnace and Supply Association, Statler Hotel, St. Louis, Missouri, June 25, 1923. J. H. Hussie, Secretary, 2407 Cuming Street, Omaha, Nebraska.

Missouri Sheet Metal Contractors' Association, Statler Hotel, St. Louis, Missouri, June 25, 1923. Otto E. Scheske, Secretary, 3818 Maffitt Avenue, St. Louis, Missouri.

The National Association of Sheet Metal Contractors, St. Louis, Missouri, June 25 to 29, 1923. E. B. Langenberg, Secretary of St. Louis Convention Committee, 4057 Forest Park Boulevard, St. Louis Missouri; E. L. Seabrook, 608 Chestnut Street, Philadelphia, Secretary.

Ohio Sheet Metal Contractors' Association, Hotel Gibson, Cincinnati, Ohio, July 17, 18 and 19, 1923. William Miller, Secretary, Dayton, Ohio.

Sheet Metal Contractors' Association of Pennsylvania, Hotel Allen, Allentown, Pennsylvania, July 26 and 27, 1923. W. F. Angermyer, Secretary, 714 Homewood Avenue, Pittsburgh, Pennsylvania

The West Virginia Retail Hardware Association, Convention and Exhibit, Huntington, West Virginia, January 15 to 18, 1924. James B. Carson, Secretary-Treasurer, 1001 Schwind Building, Dayton, Ohio.

The Ohio Hardware Association, Convention and Exhibit, Cincinnati, Ohio, February 19 to 22, 1924. James B. Carson, Secretary-Treasurer, 1001 Schwind Building, Dayton, Ohio.

Retail Hardware Doings

Arkansas.

A. W. Friend has opened a hardware business at Buckner.

Indiana.

Earl B. Mounce has opened a hardware store at 926 East 30th Street, Indianapolis.

Iowa.

O'Neill Brothers have sold their hardware business at Waukon to T. F. O'Brien and son.

Louisiana.

Gibbens and Gordon, Incorporated, of New Orleans, have opened an up-to-date retail hardware store on 532 Canal Street.

Michigan.

August Schroeder has purchased the Via Slate building and Bear Lake, will open a hardware store there.

South Carolina.

G. R. Tindall has become associated with George W. Brown in the Greenville Hardware Company at Greenville.

Sold Only Sixty Ranges in 1921—For 1923 They Are Out for Three Hundred and Fifty

Davis Furniture Company Combines Newspaper Advertising with Letter Campaign to Good Advantage.

THREE hundred and fifty ranges of one make in one year is quite a record for a store to set for itself, but if the business done by the Davis Furniture Company,

Columbus, Ohio, during March is any criterion of what the balance of 1923 will produce, it is reasonably certain that even that number will be exceeded by the company.

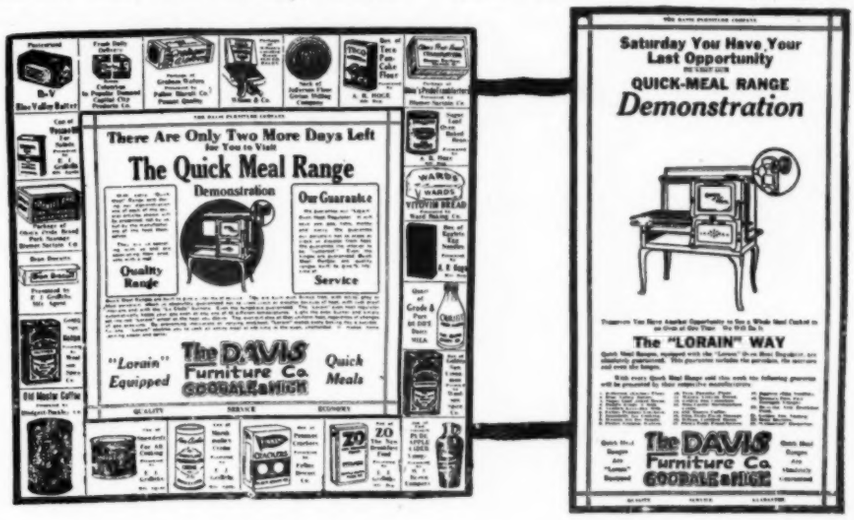
Here is what C. F. Davis, head of the Company, has to say about their campaign:

"Two years ago we sold about sixty 'Quick Meal' ranges in the entire year and at that time we felt that we had accomplished a great deal. But we were not satisfied.

"When we realized how really easy it is to sell Lorain-equipped 'Quick Meals' we decided to set our goal at a figure just double that of last year's so we aim to sell about 350 Lorain-equipped ranges during the present year.

"In January and the first part of February of the present year we missed a number of sales because we could not get ranges, but we finally received word that a carload had been shipped and we started our campaign, with the small closed curtain ad which acted as an interest creator. (See the one-column illustration herewith.) The interest was increased by the gradually opening curtain appearing in successive ads. On Sunday, March 11th, several 'opened curtains' ads, distributed about the paper, called attention to our announcement on page seven which was a big announcement of the demonstration week and which told of the food products which we would give to each 'Quick Meal' range purchaser during the week. During the demonstration week we had *a different ad in the paper each day.* They were not especially large ads, *but they were there in plain view every time anyone in Columbus picked up a paper during the entire campaign.*

"In addition to these newspaper advertisements we sent letters to several thousand present and former customers of ours in which we told about the demonstration and in which we asked them to visit our store every time they could during the demonstration, assuring them that they would learn new things at each visit. Another, more personal, letter was sent to every 'Quick



"We had our windows filled with Lorain-equipped 'Quick Meals.' We had our floors filled with them and we had our salesmen's heads filled with 'Quick Meal,' so we had to sell them. The sale was continued for two weeks and the results speak for themselves—many dozens sold during the sale *and not one sold without a Lorain.*

"This two-week campaign was followed by another week of intensive advertising. We placed a 'Quick Meal' on the stage at 'Memorial' Hall for a week during a Cooking School staged by the *Columbus Dispatch,* and on Friday evening we gave that range away to the lady we referred to in our ads as 'the luckiest visitor to the school.'

"Incidentally, we had the biggest general business in March that we ever did in one month."

To Be Successful Your Advertising Copy Must "Hit the Bull's Eye"; It Must Carry a Specific, Convincing Message, with Prices.

Make Your Advertising More Than a Wooden Indian by Using a Well-Directed, Consistent Appeal to Your Prospective Customers.

THE accompanying illustration is reprinted from the advertisement of Hulen Harware Company appearing in the Shelbyville (Illinois) *Union*. This advertisement has several redeeming features, but taken as a whole, the main point, the point that most buyers look for—the price—is missing. "How does the price of your paint compare with that of other paints?" is a question uppermost in the minds of most advertisement readers.

Colloquialism is a form of speech not generally considered good English. It is constantly used in advertising, however, but where it is so used it is customary to enclose the words or parts of phrases verging upon slang within quotation marks to show that the advertiser knows that he is using slang.

In the ad the words, "That's sure some paint," are the exact words of the painter and should, therefore, be enclosed within quotation marks.

THAT'S SURE SOME

PAINT

This is what one of the painters said to us the other day. He was finishing a room out in the West End with

Burdsals New Ivory Wood Paint.

In fact he told us that he intended to put on two coats but he had never used Burdsals Paint before. When he had got one coat on he and the customer saw that with

BURDSALS,

one coat was plenty.

And it made a lovely room—a beautiful Ivory finish.

Note:Use Burdsals Paints And Get Results.

YOU ALSO SAVE MONEY

HULEN HDW. CO

More stress should have been placed upon the reasons why Burdsal's paint is better than other makes and why it should be used in preference to other makes.

Try to put yourself in the reader's position and see what questions arise in your own mind, then in making up your advertising copy see whether or not those questions have been satisfactorily answered. Read other advertisements and see how your mind reacts toward them. In this way you will see how your advertisements affect other people, and you will be able to eliminate all undesirable features of your advertising copy and thereby take better advantage of the space used.

* * *

The accompanying advertisement is that of the Kansas Gas & Electric Company. This Company sells Clark Jewel ranges, which are equipped with Lorain Oven Regulators.

Women always can be appealed to from the angle of lessening their house work or at least making it less on the order of drudgery. Everyone is willing to lessen the amount of work he or she is compelled to do when the matter is properly called to their attention.

Be specific in your offerings and figure out buying power of your prospective customer and then "commence firing."

A Clark Jewel Gas Range

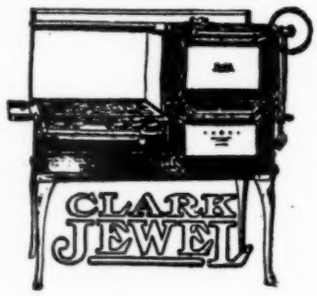
With

Lorain Oven Regulator

Is the greatest Labor Saving Device that can be installed in the Kitchen.

Simply set the Red Wheel at the proper temperature and forget your baking until the time is up.

A Lisk Self Basting Roaster Free With Every Range



The baked on finish of these RANGES gives them a lustrous, durable surface that is as easy to keep clean as it is good to look at. All steel construction prevents breakage.

A variety of pleasing styles and convenient sizes to choose from.

Kansas Gas & Electric Co.

"At Your Service."

Increased Movement of Seasonable Commodities Only Essential Change in Business—No General Accumulation of Goods Has Occurred—Price Trend Still Downward.

Consumption of Non-Ferrous Metals Is Heavy—Copper Shows Firmer Trend, While Other Metals Are Quiet.

EXCEPT for an increased consumption of seasonable goods under the stimulus of hot weather, there has been no essential change in business. The quieter conditions lately developed in primary channels have continued, and current compilations show that the main price trend is still in a downward direction.

These phases recently have become more sharply defined, but they do not seem surprising when the large transactions and the rise of prices during the first quarter of the year are considered. So many orders were then put on the books of producers that a subsequent abatement of buying was foreshadowed, and some prices had advanced so sharply that a check to the movement was not unexpected.

From the standpoint of manufacturing activity, there is evidence that the best previous records are yet being surpassed in different instances, and gains in railroad earnings reflect the unusual volume of freight traffic and show that deliveries are being accepted on most contracts previously placed.

Even with the heavy purchasing of earlier months this year, no general accumulation of merchandise has occurred, as supplies had become depleted and the demand was chiefly to cover actual needs.

Copper.

Due to advances in the price of copper in Europe, the copper market is firmer in this country than for some time past. The domestic consumers' support of the market is still light, however.

Electrolytic copper has advanced about ⅛ cents, while second hands are about ⅛ cents to ¼ cents above producers.

The conservatism of domestic consumers is readily accounted for by shipments to them in the first five months of this year at the rate of 140,000,000 pounds a month which probably is from 10,000,000 to 15,000,000 pounds a month in excess of actual consumption.

Large consumers still have considerable copper due them on contracts, so that they will not be obliged to buy for third quarter shipment for thirty to sixty days, but it would be unwise to postpone replenishing until the last minute.

In the outside market there was more demand for electrolytic for third quarter shipment, buyers bidding 15.12½ cents f.o.b. refinery, while there were few if any sellers under 15.25 cents f.o.b. refinery. These prices are from ⅛ cent to ¼ cent higher than producers' asking prices.

Lake copper remained quiet but firm at 15.25 cents to 15.37½ cents delivered and casting copper is stronger at 14.75 cents f.o.b. refinery, the latter following the advance in electrolytic to an average of 15.12½ cents f.o.b. refinery.

Tin.

The tin market is in a stagnant condition. There is no disposition to either buy or sell.

The holders of spot Straits are quoting at 42.00 cents to 42.12½ cents and no business at over 42.00 cents has been reported. In fact little business in any grade of tin for any delivery has been done.

Lead.

The New York lead market is steady at 7¼ cents a pound, but St. Louis has dropped another five points. The East St. Louis 7.00 cent basis is being shaded slightly for prompt June shipment, but the market on the whole has a steady tone. There has been a fair amount of buying of a well distributed sort without great activity.

In the present condition of absence of accumulation the situation seems fairly well stabilized. Lead has held its own and is intrinsically in a healthy condition, when the general distrust in price levels in most metals is considered, together with the resultant caution.

Zinc.

In the absence of demand the market for zinc continues to ease off. Offerings were made June 13 at 6⅛ cents, St. Louis.

Futures are sharing in the depression, and it would be difficult to sell them at over the price of June, though they are not quoted on the same level as June which is below smelters' present cost, figured even without allowance for overhead. Interest in futures is slight.

The quotations are: East St. Louis, June, 6.15 cents; July, 6.15 to 6.20 cents; August, 6.15 to 6.20 cents; September, 6.15 to 6.20 cents.

Solder.

Chicago warehouse prices on solder are as follows: Warranted 50-50, $27.25; Commercial 45-55, $26.25, and Plumbers', $23.00.

Tin Plate.

If the tin plate mills had not been very conservative in accepting obligations when the market was $4.75 and the buyers conservative when the market became established at $5.50, the tin plate mills would now find themselves much oversold in relation to the present rate of operation, which is considerably below capacity.

The relation between supply and requirements this summer will depend chiefly upon the crops.

The production is fairly well known in advance, as there is not likely to be much variation. Mills are probably operating, on an average, at a trifle above 85 per cent of theoretical capacity and on account of labor conditions they are unlikely to get many more men, while hot weather will curtail outputs per mill to an appreciable extent.

The tin plate market is firm at $5.50, with higher prices occasionally paid. While consumers are eager for full deliveries they are conservative about considering any quotations above the regular basis.

Sheets.

The sheet trade is showing a steady market. Mills are neither oversold nor undersold to any extent if at all, while prices are neither advancing nor declining.

The market as a whole stands at single prices for blue annealed, black and galvanized, prices being 3.00 cents, 3.85 cents and 5.00 cents, respectively.

It was some time ago that black sheets for early shipment receded to the base price, that made late in April for third quarter.

Galvanized and blue annealed have followed, though the recession is not entirely complete.

On some specifications and for some early deliveries blue annealed sheets still command above 3.00 cents and up to 3.25 cents, but the great bulk of the business being placed is at 3.00 cents. This is with independents, the leading interest being thoroughly sold up on blue annealed through the third quarter and indeed for a short distance into the fourth quarter, on the basis of the present rate of production.

In galvanized sheets a number of independent mills have lately loosened up as sellers and are in the market with offerings at 5.00 cents when not long ago they were out of the market irrespective of price.

Production of sheets is running along at substantially the same rate as for several weeks past.

Output is approximately at capacity, estimated on a conservative basis. The average number of mills in actual operation is between 85 per cent and 90 per cent of the total of mills, and tonnages per mill are running quite good.

With hot weather tonnage per mill will, no doubt, decrease as usual, but there will probably be quite sufficient production for the requirements of the trade.

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, $21.50 to $22.00; old iron axles, $27.00 to $27.50; steel springs, $22.50 to $23.00; No. 1 wrought iron, $15.50 to $16.00; No. 1 cast, $19.00 to $19.50, all per net tons. Prices for non-ferrous metals are quoted as follows, per pounds: Light copper, 10 cents; light brass, 5½ cents; lead, 5 cents; zinc, 3½ cents; and cast aluminum, 15½ cents.

Pig Iron Prices Are Better Stabilized—Buying Is Not Active—Labor Shortages Cause Deferred Shipments.

Freight Loadings Show Continuance of Record-Breaking Traffic Volume—Slight Let-up in Steel Plant Operations.

THE general course of business is reflected in data on freight traffic and the steel industry. Revenue freight loadings for the week ended June 2 totaled 932,041 cars. This was 81,988 cars below the preceding week, but the drop was due largely to observance of Memorial day.

The current figures, however, indicate continuance of record breaking traffic volume, being 192,482 cars more than were loaded in the corresponding week last year.

Some let-up in the recent high rate of steel plant operations is noted, which may be ascribed to labor and weather conditions. There is some difference of opinion on the volume of new business.

Interest in pig iron is still not active at Pittsburgh with reference to foreward buying. The price of steel making iron is unchanged, while foundry iron declined 50 cents from last week's price.

The Birmingham pig iron market shows a little betterment, inasmuch as a number of small-lot sales are being booked, where third quarter delivery can be guaranteed.

Inquiries also are picking up as to future delivery. The buying is far from being active but the numerous small lots aggregate a considerable tonnage.

Two or three sales of 1,000 tons each are reported having been closed recently while a number of sales have been for 250 to 600 tons.

Some of the railroads have purchased small lots of iron lately. Reports continue that some consumers are not getting their metal as quickly as needed and furnace interests are being urged to make effort to deliver more rapidly. As a consequence much iron was moved out this week, almost as quickly as produced and a little went from the yards.

Though buying of third quarter pig iron is increasing steadily at Chicago, it is not yet general or decided in movement.

With less than three weeks remaining in the first half many melters still are waiting for the reduction they believe will precede general buying.

The market is holding firmly at $32 for northern iron and $27 for southern. The northern silicon differential is 50 cents for the first step and $1 for succeeding steps. Furnace and foundry stocks are small, most melters having less than 60 days' supply. Some have tonnage coming on second quarter contracts to cover much of their third quarter requirements, because of labor shortage limiting the melt. The market is on a substantial basis. There are no suspensions outside of an occasional request due to labor scarcity.